

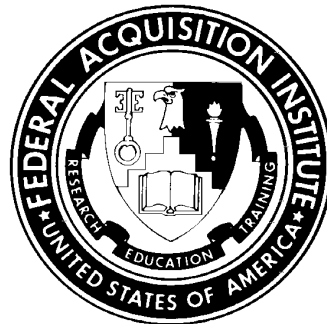
# INTERMEDIATE CONTRACT PRICING

## VOLUME IV

### ADVANCED ISSUES IN CONTRACT PRICING



*Prepared by*



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INTERMEDIATE CONTRACT PRICING  
VOLUME IV  
ADVANCED ISSUES IN CONTACT PRICING

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CONTRACT FUNDS STATUS REPORT												
1. CONTRACT NUMBER		3. CONTRACT FUNDING FOR INCREMENTAL FUNDED CONTRACT FOR FY X4		5. PREVIOUS REPORT DATE DECEMBER 30, 19X3		7. CONTRACTOR (Name, address and zip code)				9. INITIAL CONTRACT PRICE		
										a. TARGET \$725,000		
										b. CEILING N/A		
2. CONTRACT TYPE  Cost-sharing		4. APPROPRIATION  N/A		6. CURRENT REPORT DATE JANUARY 19X4		8. PROGRAM				10. ADJUSTED CONTRACT PRICE		
										a. TARGET N/A		
										b. CEILING N/A		
11. FUNDING INFORMATION												
LINE ITEM/ WBS ELEMENT  a	APPRO- PRIATION IDENTIFI- CATION  b	FUNDING AUTHORIZED TO DATE  c	ACCRUED EXPENDI- TURES OPEN COMMIT- MENTS TOTAL  d	CONTRACT WORK AUTHORIZED			FORECAST			TOTAL REQUIRE- MENTS  k	FUNDS CARRY- OVER  l	NET FUNDS REQUIRED  m
				DEFINITIZED  e	NOT DEFINITIZED  f	SUBTOTAL  g	NOT YET AUTHORIZED  h	ALL OTHER WORK  i	SUBTOTAL  j			
ALL		125,000	107,479	725,000		725,000				725,000		725,000
12. CONTRACT WORK AUTHORIZED (With Fee/Profit) - ACTUAL OR PROFITED												
	ACTUAL TO DATE	ETC* TASK 1	ETC TASK 2	ETC TASK 3								AT COMPLETION
a. OPEN COMMITMENTS												
b. ACCRUED EXPENDITURES	\$107,479	\$67,521	\$275,000	\$275,000								\$725,000
c. TOTAL (12a + 12b)	\$107,479	\$67,521	\$275,000	\$275,000								\$725,000
13. FORECAST OF BILLINGS TO THE GOVERNMENT	\$107,479	\$67,521	\$275,000	\$275,000								\$725,000
14. ESTIMATED TERMINATION COSTS												
15. REMARKS  *ETC = ESTIMATE TO COMPLETE												

Volume IV

**ADVANCED ISSUES IN CONTRACT PRICING**

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**ADVANCED ISSUES IN CONTRACT PRICING**

# **CHAPTER 1**

## **Evaluating Indirect Costs**

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## LEARNING OBJECTIVES

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At the end of this  
Chapter

At the end of this chapter, you will be able to:

### **Classroom Learning Objective 1/1**

- Describe the importance and composition of indirect costs.

### **Classroom Learning Objective 1/2**

- Describe indirect rates and the indirect cost allocation cycle.

### **Classroom Learning Objective 1/3**

- Describe the steps in estimating indirect cost rates.

### **Classroom Learning Objective 1/4**

- Develop prenegotiation positions on a contractor's indirect cost rate estimates.

### **Classroom Learning Objective 1/5**

- Apply prenegotiation positions on indirect cost rates in forward pricing.

### **Classroom Learning Objective 1/6**

- Determine billing rates and disallow unallowable invoiced costs.

### **Classroom Learning Objective 1/7**

- Determine and apply final indirect cost rates.
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## CHAPTER OVERVIEW

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### In This Chapter

This chapter covers:

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## CHAPTER OVERVIEW

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### Introduction

FAR 31.203
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Indirect costs are known by many names. Generally, they are referred to as overhead or burden expense. Two types of cost are typically included in the category:

1. Costs that CANNOT practically be assigned directly to the production or sale of a particular product. In accounting terms, such costs are NOT directly identifiable with a specific cost objective.

**For example,** the costs involved in the maintenance of the firm's plant and equipment are so general that they cannot be specifically assigned to a particular contract. The same is true of the cost of accountants for general accounts.

2. Direct costs of minor dollar amount may be treated as indirect costs if the accounting treatment is consistently applied and it produces substantially the same results as treating the cost as a direct cost.

**Examples** of this type of cost include common hardware items, such as washers, sandpaper, and lubricants. Usually, there is no net benefit to the contractor or the Government in trying to track every single washer or scrap of sandpaper against cost objectives.

In this chapter, you will learn about:

- Indirect cost importance and composition
  - Indirect cost rates formulation
  - Indirect cost allocation cycle
  - Indirect cost forward pricing rate analysis
  - Analysis of specific indirect costs
  - Establishing and adjusting billing rates
  - Determining and applying final indirect cost rates
-



## 1.1 IMPORTANCE AND COMPOSITION OF INDIRECT COSTS

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### Section Overview

While indirect costs cannot be directly identified with the production or sale of a particular product, they are necessary costs of doing business. Some portion of indirect costs are properly allocable to each contract.

Because they cannot be identified with a single, final cost objective, indirect costs are particularly susceptible to charges that they are not allowable. For that reason, this section will present a brief review of the general criteria governing cost allowability. Remember, Government auditors and other specialists will make recommendations on cost allowability, but the ultimate decision rests with you, the contracting officer.

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### 1.1.1 Indirect Cost Importance and Composition

#### Introduction

While indirect costs cannot be directly identified with the production or sale of a particular product, they are necessary costs of doing business. Some portion of indirect costs are properly allocable to each contract.

#### Importance

While indirect costs are an important consideration in the analysis of every cost proposal, the share of cost that they represent will vary from firm to firm and industry to industry. For example, expect indirect costs to represent a larger share of a cost proposal for industrial production than for contract services. Manufacturing operations typically require substantial investment in plant and equipment—the very type of spending that, in general, cannot be directly charged to any one product. Services typically do not require a similar level of investment in plant and equipment.

A recent study of large Defense contractors by the Institute for Defense Analysis provides insight into the growing importance of indirect cost in large manufacturing firms. The data presented in the table below for 1974 and 1987 are actual data collected during the study. The figures for the year 2020 are extensions of the trends identified between 1974 and 1987 and are presented to highlight the implications of the identified trends for the future of Government contract pricing.

CATEGORY OF COST	PERCENT OF BUSINESS		
	1974	1987	2020 <sup>1</sup>
Direct Labor			
Manufacturing Labor	14	10	3
Engineering-Related <sup>2</sup>	11	14	20
Direct Material	32	26	15
<b>Plant-wide Indirect Cost</b>	<b>43</b>	<b>50</b>	<b>62</b>
Total Cost	100	100	100

1 Projected data

Source: Institute for Defense Analysis, D-764, 1990

2 Engineering-related cost includes both engineering and other direct costs

The magnitude of indirect costs in a typical cost proposal emphasizes the importance of careful analysis of indirect costs in contract pricing. Furthermore, the above data indicate that thorough analysis of indirect cost can be expected to be even more important in the future.

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**Composition of Indirect Costs**

Grouping indirect costs under titles, such as the title “plant-wide indirect costs” used in the table above, seems to imply that the costs are homogeneous. In fact, the term “indirect costs” covers a wide variety of cost categories. Furthermore, the costs are not all incurred for the same reasons. Some indirect costs are related to specific operations, while others are related to the general operation of the firm.

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**Two Basic Types**

In general, indirect costs fall into two broad categories:

1. Indirect costs related to operational support, such as:
    - Material Overhead
    - Manufacturing Overhead
    - Engineering Overhead
    - Field Service Overhead
    - Site Overhead
  2. General and Administrative (G&A) Expenses—Management, financial, and other expenses related to the general management and administration of the business unit as a whole. To be considered a G&A Expense of a business unit, the expenditure must be incurred by, or allocated to, the general business unit. Examples of G&A Expense include:
    - Salary and other costs of the executive staff of the corporate or home office.
    - Salary and other costs of such staff services as legal, accounting, public relations, and financial offices
    - Selling and marketing expenses
-

### 1.1.2 Direct/Indirect Cost Decision

Introduction	<p>The decision to classify a cost as direct or indirect is not always a clear choice. There is no absolute list of costs that belong in one class or the other. Contractors have the right and responsibility to define costs within their own accounting systems. At the same time, the Government prescribes guidelines for use by contractors in making their decisions and for use by you in reviewing the appropriateness of their decisions. The role of Government representatives—be they auditors, analysts, or contracting officers—is not so much directing or approving accounting practices as it is reviewing the adequacy and acceptability of contractor accounting systems for use on Government contracts.</p>
Generally Accepted Accounting Principle Guidelines	<p>Generally Accepted Accounting Principles (GAAP) are general rules used by all business entities. They are non-regulatory guidance developed and used by Certified Public Accountants. However, they provide the general guidelines followed by all firms in accounting system development.</p>
FAR Guidelines	<p>The Federal Acquisition Regulation (FAR) provides both general and specific guidelines on accounting for costs. The general guidelines on the direct/indirect cost decision are presented in FAR 31.202 and 31.203. Individual cost principles in FAR 31.205 may include specific guidance on the allocation of particular types of cost.</p>
FAR 31.202	<p>The FAR defines a direct cost as any cost that can be identified specifically with a particular final cost objective. For our purpose, a final cost objective is normally a contract deliverable. If a cost is identified specifically with a final cost objective, contractors must charge it to that cost objective and no other.</p>
FAR 31.203	<p>The FAR defines an indirect cost as any cost that is:</p> <ul style="list-style-type: none"><li>• Not directly identified with a single, final cost objective, BUT</li><li>• That is identified with two or more final cost objectives or an intermediate cost objective.</li></ul> <p>As described in the chapter introduction, minor direct costs may be allocated as indirect costs provided that the allocation is consistently applied to all final cost objectives and produces substantially the same results as treating the cost as a direct cost.</p>

---

Cost Accounting  
Standards  
Guidelines

FAR Part 30  
FAR App. B

Cost Accounting Standards (CAS) are issued by the Cost Accounting Standards Board (CASB). When these standards are applicable, they take priority over other forms of accounting guidance. For example, CAS 418, Allocation of Direct and Indirect Cost, provides detailed guidance on the definition and allocation of indirect costs. See FAR Part 30 and FAR Appendix B for additional information.

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Contracting  
Officer  
Responsibility

FAR 31.202 &  
31.203

The guidelines on the direct/indirect cost decision are subject to interpretation by the contractor, auditors, inspectors general, General Accounting Office (GAO), and other accounting professionals.

Different experts often interpret the same guidance differently. Differences can be minor or major. As a contracting officer, you may be called upon to negotiate a resolution of cost differences that result from differing interpretations. Differences of opinion can usually be resolved through negotiations, but many are finally resolved through decisions issued by contracting officers, boards of contract appeals or the Federal courts.

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### 1.1.3 Allowability of Indirect Costs

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#### Introduction

FAR 31.201-2

Because they cannot be identified with a single, final cost objective, indirect costs are particularly susceptible to charges that they are not allowable. For that reason, this section will present a brief review of the general criteria governing cost allowability. Remember, Government auditors and other specialists will make recommendations on cost allowability, but the ultimate decision rests with you, the contracting officer.

The factors that you must consider in determining whether a particular cost is allowable include:

- Cost reasonableness
  - Cost allocability to the contract
  - Requirements of cost accounting principles, practices, and standards
  - Limitations of applicable cost principles
  - Terms of the contract
- 

#### Determining Cost Reasonableness

FAR 31.201-3(a)

A cost is reasonable if, in its nature and amount, it does not exceed what a prudent person would pay in the conduct of competitive business.

**DO NOT** assume that a cost is reasonable just because the contractor has already incurred the cost. If you challenge the reasonableness of an incurred cost, the burden of proof shall be on the contractor to establish that the cost is reasonable.

If the answer to any of the following questions is “no”, it is likely that the cost is not reasonable:

- Is the type of cost generally recognized as necessary in conducting business?
  - Is the cost consistent with sound business practice, law, regulation, and the principles of “arm’s-length” bargaining?
  - Does the contractor’s action reflect a responsible attitude toward the Government, other customers, the owners of the business, the employees, and the public-at-large?
  - Are the contractor’s actions consistent with established practices?
-

## Determining Cost Allocability

FAR 31.201-4

A cost is allocable if it is assignable or chargeable to one or more cost objectives on the basis of relative benefits received or other equitable relationship. Typically, we think of cost objectives as individual contracts or jobs. However, cost objectives can include other objectives, such as independent research and development.

If you can answer “yes” to any of the following questions, it is likely that the cost is allocable to a particular cost objective:

- Were the costs specifically incurred for that cost objective?
- If the cost benefits both the contract and other work, were the costs allocated to the cost objective in reasonable proportion to the benefits received?
- Is the allocated cost necessary for overall operation of the business even though a relationship any particular cost objectives CANNOT be shown?

## Accounting, Principles, Practices, and Standards

FAR 31.201-2(a)(3)

There are three primary sources of accounting practices and standards that provide guidance on the allocation of costs to contracts (in order of precedence):

- Cost Accounting Standards (CAS)
- Federal Acquisition Regulation (FAR)
- Generally Accepted Accounting Principles (GAAP)

**Cost Accounting Standards.** The Cost Accounting Standards Board (CASB) has exclusive authority to make, promulgate, amend, and rescind CAS and CAS interpretations. On April 17, 1992, the CASB issued a final rule, effective immediately, recodifying the 19 current Standards as part of the FAR system in 48 CFR 99. The recodified language, currently published in FAR Appendix B, eliminated relatively minor differences between the original CAS language and the CAS language previously published in FAR Part 30. It also made the Standards mandatory for **ALL** Government contracts unless specifically exempted. The table below summarizes the exemptions:

*(Topic continued on next page)*

### 1.1.3 Allowability of Indirect Costs

Accounting,  
Principles,  
Practices, and  
Standards  
(continued)

<b>BASIS FOR EXEMPTION</b>	<b>THE CONTRACT OR SUBCONTRACT IS EXEMPT IF THE CONTRACT...</b>
Method of Procurement	Is awarded through sealed bidding.
Dollar Amount of Award	Award does not exceed \$500,000. (When determining CAS exemptions, treat an order issued by one segment of corporation to another as a contract.)
Type of Business	Is with a small business.
	Is with a labor surplus area concern under a labor surplus area set aside.
	Is with an educational institution except for Federally Funded Research and Development Centers (FFRDCs).
Method of Pricing	Price is set by law or regulation.
	Price is based on established catalog or market prices of commercial items sold in substantial quantities to the general public.
	Is awarded at a firm fixed-price without submission of any cost data.
Place of Performance	Will be executed and performed entirely outside the United States, its territories, and possessions.
Foreign Concerns	Is awarded to foreign government, their agent, or instrumentality, except that a foreign business concern would be subject to CAS 401 and 402.
	Is awarded to a United Kingdom (U.K.) contractor for performance substantially in the U.K (provided the contractor has filed a completed Disclosure Statement with the United Kingdom Ministry of Defense).
	Awarded under the NATO PHM Ship program performed entirely outside the United States, by a foreign concern.

All contracts that are not exempted from CAS coverage must include CAS requirements. However, not all contracts will include full CAS coverage. See your contract and FAR Appendix B to determine the specific coverage on your contract.

Full CAS coverage includes all 19 current Standards. These standards can be divided into four groups by primary purpose: concepts and principles, allocation of costs to contracts, identification and assignment of costs, and cost of money.

*(Topic continued on next page)*



Accounting,  
Principles,  
Practices, and  
Standards  
(continued)

COST ACCOUNTING STANDARDS	
CONCEPTS AND PRINCIPLES	
CAS 401	Consistency in Estimating, Accumulating, and Reporting Costs
CAS 402	Consistency in Allocating, Costs Incurred for the Same Purpose
CAS 405	Accounting for Unallowables
CAS 406	Cost Accounting Period
ALLOCATION OF COSTS TO CONTRACTS	
CAS 403	Allocation of Home Office Expense
CAS 407	Use of Standard Cost Systems
CAS 410	Allocation of Business Unit G&A
CAS 418	Allocation of Direct and Indirect Costs
IDENTIFICATION AND ASSIGNMENT OF COSTS	
CAS 404	Capitalization of Tangible Assets
CAS 409	Depreciation of Tangible Assets
CAS 408	Accounting for Paid Absence
CAS 412	Composition & Measurement of Pension Costs
CAS 413	Adjustment & Allocation of Pension Costs
CAS 415	Accounting for Deferred Compensation
CAS 416	Accounting for Insurance Costs
CAS 411	Accounting for Acquisition Costs of Materials
CAS 420	Accounting for IR&D/B&P
COST OF MONEY	
CAS 414	Cost of Money as an Element of Facilities Capital
CAS 417	Cost of Money of Capital Assets under Construction

**Federal Acquisition Regulation.** The FAR provides additional guidance on cost accounting issues that apply to Government contracts, not just the contracts subject to CAS. In some cases, this additional guidance requires all Government contractors to comply with the same accounting principles defined in CAS. Examples of FAR requirements include the guidelines on cost allowability and definitions of direct and indirect costs.

*(Topic continued on next page)*

Accounting,  
Principles,  
Practices, and  
Standards  
(continued)

**Generally Accepted Accounting Practices.** Generally Accepted Accounting Practices (GAAP) are non-regulatory accounting guidelines developed by Certified Public Accountants (CPAs). GAAP are used by accountants in preparing and managing the accounting records of all businesses. As a result, they serve as the basis for the accounting systems used by Government contractors.

Guidance in the FAR and CAS generally build on GAAP. For example, the GAAP require accountants to maintain records by accounting period. CAS 406, Cost Accounting Period, prescribes that the accounting period will be one year, except in certain specific situations.

If the contractor is in compliance with applicable GAAP, FAR, and CAS requirements, you should be able to answer “yes” to the following questions:

- Is the offeror’s accounting system considered adequate by the cognizant Government auditor?
- If the proposed contract is to be subject to modified CAS coverage, is the offeror in compliance with applicable Standards?
- If the proposed contract is to be subject to full CAS coverage, is the offeror in compliance with applicable Standards and the firm’s Disclosure Statement?

## Cost Principles

FAR 31.205
------------

Fifty-two selected cost principles for contracts with commercial organizations are found in FAR 31.205. Each one defines a particular type of cost and establishes whether it is generally allowable, unallowable, or allowable with some restrictions.

- **Allowable Cost**—Costs are expressly identified as allowable as long as they meet the requirements of the other four tests of allowability (e.g., reasonableness). NOTE: Costs not addressed in the cost principles are also allowable if they meet the requirements of the other four tests of allowability.
- **Unallowable Cost**—Costs are expressly identified as unallowable. These costs cannot be included in cost estimates or reimbursable expenses.
- **Allowable with Restrictions**—Costs are expressly identified as allowable (subject to the other four tests of allowability) but with some restriction on the amount allowable.

*(Topic continued on next page)*

Cost Principles  
(continued)

The following table identifies the current cost principles in FAR 31.205, and summarizes the allowability of costs identified in the cost principle. Note that within the same general cost category, some costs may be allowable, others unallowable, and still others allowable with restrictions. In addition, a particular principle may identify a cost as unallowable, but refer the reader to another principle that makes a particular element of that cost allowable.

(A = Allowable, UA Unallowable, AWR = Allowable With Restrictions)

ALLOWABILITY OF SELECTED COSTS				
SELECTED COSTS	FAR REF.	A	UA	AWR
ADPE Leasing Costs	31.205-2			AWR
Alcoholic Beverages	31.205-51		UA	
Asset Valuations Resulting from Business Combinations	31.205-52			AWR
Bad Debts	31.205-3		UA	
Bonding Costs	31.205-4	A		
Civil Defense Cost	31.205-5	A	UA	
Compensation for Personal Services	31.205-6	A	UA	AWR
Contingencies	31.205-7	A	UA	
Contributions or Donations	31.205-8		UA	
Cost of Money	31.205-10			AWR
Deferred Research & Development Costs	31.205-48		UA	AWR
Depreciation	31.205-11			AWR
Economic Planning Costs	31.205-12	A	UA	
Employee Morale, Health, Welfare, Food Service, & Dormitory Costs & Credits	31.205-13	A		AWR
Entertainment Costs	31.205-14		UA	
Fines, Penalties, & Mischarging	31.205-15		UA	AWR
Gains & Losses on Disposition of Depreciable Property or Other Capital Assets	31.205-16			AWR
Goodwill	31.205-49		UA	
Idle Facilities & Idle Capacity Costs	31.205-17		UA	AWR
Insurance & Indemnification	31.205-19	A	UA	AWR
Interest & Other Financial Cost	31.205-20		UA	AWR
IR&D/B&P Costs	31.205-18		UA	AWR

(Table continued on next page)

### 1.1.3 Allowability of Indirect Costs

#### Cost Principles (continued)

(A = Allowable, UA Unallowable, AWR = Allowable With Restrictions)

ALLOWABILITY OF SELECTED COSTS (CON'T)				
SELECTED COSTS	FAR REF.	A	UA	AWR
Labor Relations Costs	31.205-21	A		
Legal & Other Proceedings Costs	31.205-47		UA	AWR
Lobbying Costs (Executive)	31.205-50		UA	
Lobbying Costs (Legislative)	31.205-22		UA	AWR
Losses on Other Contracts	31.205-23		UA	
Maintenance & Repair Costs	31.205-24	A		
Manufacturing & Production Engineering Cost	31.205-25	A		
Material Costs	31.205-26	A		
Organization Costs	31.205-27		UA	
Other Business Expenses	31.205-28	A		
Plant Protection	31.205-29	A		
Patent Costs	31.205-30	A	UA	AWR
Plant Reconversion Costs	31.205-31		UA	AWR
Precontract Costs	31.205-32			AWR
Professional & Consultant Service Costs	31.205-33	A	UA	AWR
Public Relations & Advertising	31.205-1		UA	AWR
Recruitment Costs	31.205-34	A	UA	AWR
Relocation Costs	31.205-35	A	UA	AWR
Rental Costs	31.205-36	A		AWR
Reserved	31.205-9	—	—	—
Royalties & Other Costs for Use of Patents	31.205-37			AWR
Selling Costs	31.205-38	A	UA	
Service & Warranty Costs	31.205-39	A		
Special Tooling & Special Test Equipment Cost	31.205-40			AWR
Taxes	31.205-41	A	UA	
Termination Costs	31.205-42	A		AWR
Trade, Business, Technical, and Professional Activity Costs	31.205-43	A		AWR
Training & Education Costs	31.205-44	A	UA	AWR
Transportation Costs	31.205-45	A		
Travel Costs	31.205-46			AWR

(Topic continued on next page)

## Cost Principles (continued)

If the contractor is in compliance with the requirements of the FAR specific cost principles, you should be able to answer “yes” to the following questions:

- Are costs allowable under FAR Subpart 31.205?
  - Are questionable costs correctly classified using FAR Subpart 31.205 definitions?
  - Could the questionable cost be defined under more than one cost principle?
- 

## Contract Terms

FAR 31.201-2(a)(4)
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Specific types of cost are often addressed in the solicitation and contract. For example, while transportation costs are generally allowable, the contract may limit costs to the rates for a specific mode, e.g., 3rd class mail. **Contract terms can only be more restrictive than the other four tests of allowability, not less.** Contract terms **CANNOT** make an otherwise unallowable cost allowable.

If the contractor is in compliance with specific contract terms, you should be able to answer “yes” to the following question:

- Is the contractor complying with any specific contract language that dictates the treatment of certain costs?
-

## 1.2 INDIRECT COST RATES

---

### Section Overview

This section discusses how the indirect cost rate is calculated using an indirect pool and a related direct effort base. Each of these elements of the rate is examined.

You will learn how indirect costs are grouped into primary pools for allocation to final cost objectives. The use of secondary pools and service centers in the allocation process will be considered.

Finally, you will see how the direct effort base is used to allocate the indirect costs in the pool to final cost objectives.

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## 1.2.1 Indirect Rate Formula

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### Introduction

As you learned earlier, indirect costs are not directly identified with a single, final cost objective. Since they are not related to a single cost objective, how do we know when an indirect cost should be charged to a particular product? We use indirect cost rates. As a larger share of a contractor's direct effort (e.g., manufacturing) is required to produce a particular product, a larger share of the indirect costs that the contractor incurs in support of that direct effort (e.g., costs such as supervision, utilities, and maintenance) should be charged to the contract.

---

### Rate Formula

The amount of indirect cost that is charged to a particular product is determined by the appropriate indirect cost rates (also known as overhead or burden rates). Indirect cost rates are expressed in terms such as dollars per hour or percentage of cost. Indirect cost rates are calculated by dividing a pool of indirect cost by a base representative of direct activity.

$$\frac{\text{Indirect Cost Pool}}{\text{Base}} = \text{Rate}$$

Once a rate has been established, you can determine the amount of indirect cost that should be allocated to the contract. Simply multiply the rate by the estimated or actual base cost (or hours) incurred for the contract in that period. Contracts with a greater share of the base (e.g., direct labor dollars) will be charged a greater share of the related indirect cost pool (e.g., Manufacturing Overhead). Contracts with a smaller share of the base will be charged a smaller share of the related indirect cost pool.

*When you analyze indirect cost rates, do not fall into the trap of looking at a rate and immediately determining that it is too high or too low without analysis of the base and pool. A rate of 400 percent can be reasonable and a rate of 100 percent can be unreasonable depending on the base, types of costs in the pool, reasonableness of the costs in the pool, and the overall effect on total cost and the operations of the firm. Also avoid the trap of assuming that a rate for one firm is necessarily a good yardstick for evaluating the rates of other firms in the same industry and/or of the same size.*

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## 1.2.2 Indirect Cost Pools

Definition

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$$\frac{\text{INDIRECT COST POOL}}{\text{Base}} = \text{Rate}$$

FAR 31.203(b)

An indirect cost pool is a logical grouping of indirect costs with a similar relationship to the cost objectives. For example, Engineering Overhead pools include indirect costs that are associated with engineering effort. Likewise, Manufacturing Overhead pools include indirect costs associated with manufacturing effort. By pooling similar indirect costs for allocation, the contractor should get approximately the same distribution of indirect costs as if the firm allocated each indirect cost separately.

Primary Pools

The pools used to make the final allocation of indirect costs to cost objectives are known as primary pools. The table on the next page lists some of the more common primary pools and types of costs often found in each pool. A cost listed under a single pool, such as 'Manufacturing Overhead', may be grouped with other listed costs into a single pool, charged as separate pool, or fragmented into several separate pools. Remember, every firm's accounting system is different. The following list is only typical; do not regard it as the only correct way to group costs.



## Typical Pools

COMMON POOLS	TYPICAL COSTS FOUND IN THE POOL
Material Overhead	Acquisition (Purchasing)
	Inbound Transportation
	Indirect Labor
	Employee Related Expenses (shift & overtime premiums, employee taxes, fringe benefits)
	Receiving & Inspection
	Material Handling & Storage
	Vendor Quality Assurance
	Scrap Sales Credits
	Inventory Adjustments
Operations Overhead  (e.g., Manufacturing, Engineering, Field Service, and Site Operations)	Indirect labor and supervision
	Perishable Tooling (primarily in Manufacturing Overhead)
	Employees related expenses (shift & overtime premiums, employee taxes, fringe benefits)
	Indirect material & supplies (small tools, grinding wheels, lubricating oils)
	Fixed charges (e.g., depreciation, insurance, rent, property taxes)
	Downtime of direct employees (training, vacation pay, regular pay) when not working on a specific contract/job
General & Administrative	General & executive office expense
	Staff services (legal, accounting, public relations, financial)
	Selling and marketing expenses
	Corporate or home office expense
	Independent Research and Development (IR&D) cost
	Bid and Proposal (B&P) cost
	Other miscellaneous activities related to overall business operation

## Secondary Pools

A secondary pool is an intermediate pool that is used to allocate costs to primary pools.

Some indirect costs obviously belong to one specific primary pool. For example, the salary of a manufacturing manager would logically be charged as part of a Manufacturing Overhead pool. The company president's salary would be part of the general and administrative cost pool. These costs therefore would appear only in the appropriate primary pool.

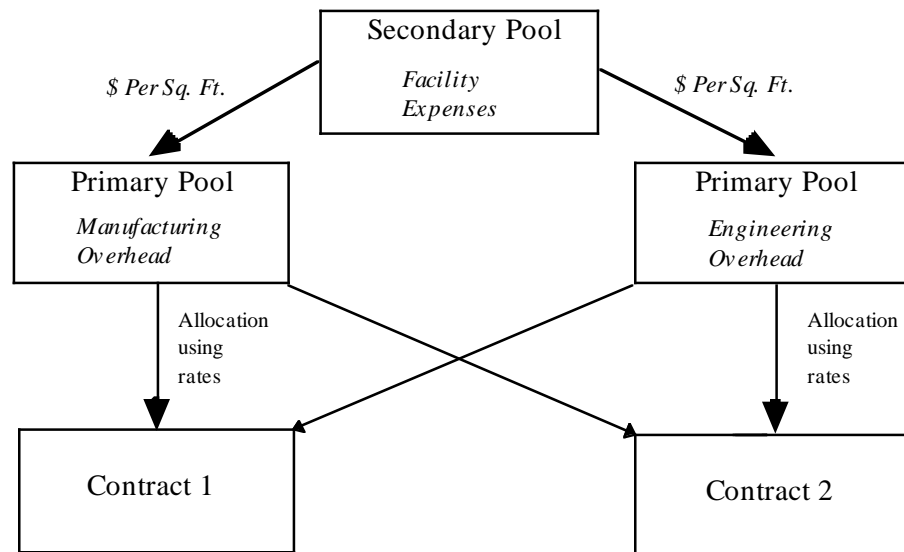
*(Topic continued on next page)*

### Secondary Pools (continued)

The proper account for other indirect costs may not be so obvious. For example, a building is shared by manufacturing and engineering. Should facility expenses (e.g., building depreciation, utilities, and maintenance) be charged to engineering or manufacturing? The answer is that both should share the cost based on a causal or beneficial relationship with the cost involved. For example, facilities expenses could be allocated based on the share of available floor space occupied.

A reasonable share of each cost could be separately allocated to the appropriate primary pool, or the related costs could be grouped and allocated together. If the costs are grouped for allocation, the cost grouping is known as a secondary pool.

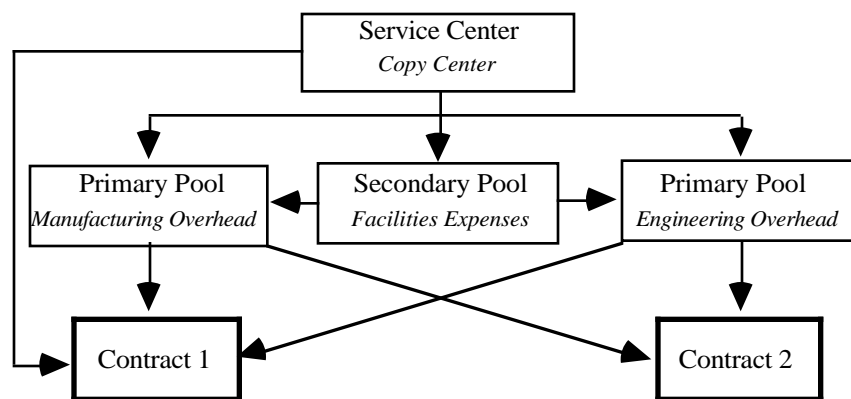
The figure below depicts the allocation of the expenses related to a shared facility based on the number of square feet occupied by each occupant. If engineering occupies 60 percent of the building, 60 percent of the facility-related expenses will be allocated to the Engineering Overhead Pool. Forty percent will be allocated to the Manufacturing Overhead Pool.



Typically, you will not see charges from a secondary pool in the data submitted with the cost proposal. You will only see the results. However, secondary pool allocations must be reasonable to assure proper allocation of costs to final cost objectives. Any audit of a firm's accounting records, should consider the proper allocation of secondary pool expenses to final cost objectives.

## Service Centers

Service centers are unique in that they include costs that can be allocated as a direct cost or an indirect cost depending on the particular circumstances. Primary allocation concerns include (1) identification of the user of the service and (2) purpose of that use. A good example is a copy center where costs are allocated based on the number of copies reproduced. A copy of a manufacturing drawing might be charged to Manufacturing Overhead. A copy of an engineering report might be charged to Engineering Overhead. A copy of the facility manager's weekly calendar might be charged to the Facilities secondary pool. A deliverable copy of a research report prepared for the Government might be charged as a direct cost.



*The important thing to remember about service center cost allocation is the need for clear definition of how the costs will be allocated.* Definition of the circumstances related to each different type of accounting treatment is particularly important. Clear definition will help you avoid paying a service center cost twice through incorrect charging of a cost as a direct cost while the same or similar cost is being charged as an indirect cost.

SERVICE CENTER EXAMPLES	
Copy Center	Communication Services
Business Data Processing	Facility Services
Photographic Services	Motor Pool Services
Reproduction Services	Company Aircraft Services
Art Services	Wind Tunnels
Technical Typing Services	Scientific Computer Operations

### 1.2.3 Bases

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Definition

$$\frac{\text{Indirect Cost Pool}}{\text{BASE}} = \text{Rate}$$

FAR 31.203(b)

A base is some measure of direct contractor effort that can be used to allocate pool costs based on benefits accrued by the several cost objectives. Examples of typical bases:

- Direct labor hours
- Direct labor dollars
- Number of units produced
- Number of machine hours.

The type of base determines whether the indirect rate will take the form of a percentage or a dollar rate per unit of measure. Using manufacturing as an example, the following are common bases and the resulting rates:

$$\frac{\text{Pool Dollars}}{\text{Direct Labor Hours}} = \text{Dollars per Direct Labor Hour}$$

$$\frac{\text{Pool Dollars}}{\text{Direct Labor Dollars}} \times 100 = \text{Percent of Direct Labor Dollars}$$

$$\frac{\text{Pool Dollars}}{\text{\# of Production Units}} = \text{Dollars per Unit of Production}$$

$$\frac{\text{Pool Dollars}}{\text{Machine Hours}} = \text{Dollars per Machine Hour}$$

Whatever the measure, remember this rule of thumb: The larger your share of the base, the larger your share of costs in the indirect cost pool.

---

Selecting a Base

When selecting a base for the pool, contractors consider the type of indirect costs in the pool and whether the base will provide a reasonable representation of the relative consumption of pooled indirect costs by direct cost activities. Any given base should be representative of the breadth of activities supported by the pooled indirect costs.

### Selecting a Base (continued)

**For example,** if the firm's manufacturing operation is labor intensive and the pool is predominantly labor related (e.g., such as supervisory labor and fringe benefits) the contractor will probably select a base related to labor effort for allocating Manufacturing Overhead costs. If the manufacturing operation is automated with little labor effort, the contractor will probably select a base related to the machinery use (such as machine hours).

### Common Bases

The following table represents some of the more common bases and the type of pools that they are typically used to allocate:

ALLOCATION BASES	TYPES OF INDIRECT COST POOLS					
	MANUFACTURING	ENGINEERING	FIELD SERVICE	MATERIAL	GENERAL & ADMINISTRATIVE	SECONDARY POOLS
Total Cost Input <sup>1</sup>					•	
Value-Added Cost Input Base <sup>2</sup>					•	
Direct Labor Dollars	•	•	•		•	
Direct Labor Hours	•	•	•		•	
Machine Hours	•					
Units of Product <sup>3</sup>	•					
Number of Purchase Orders				•		
Direct Material Cost				•		
Total Payroll Dollars						•
Head Count						•
Square Footage						•

<sup>1</sup> Also referred to as the "Cost of Goods Manufactured" during the accounting period, or "production cost." It typically includes all costs except General and Administrative.

<sup>2</sup> Also referred to as "Conversion cost ". It is the sum of direct labor costs, other direct costs, and associated indirect costs.

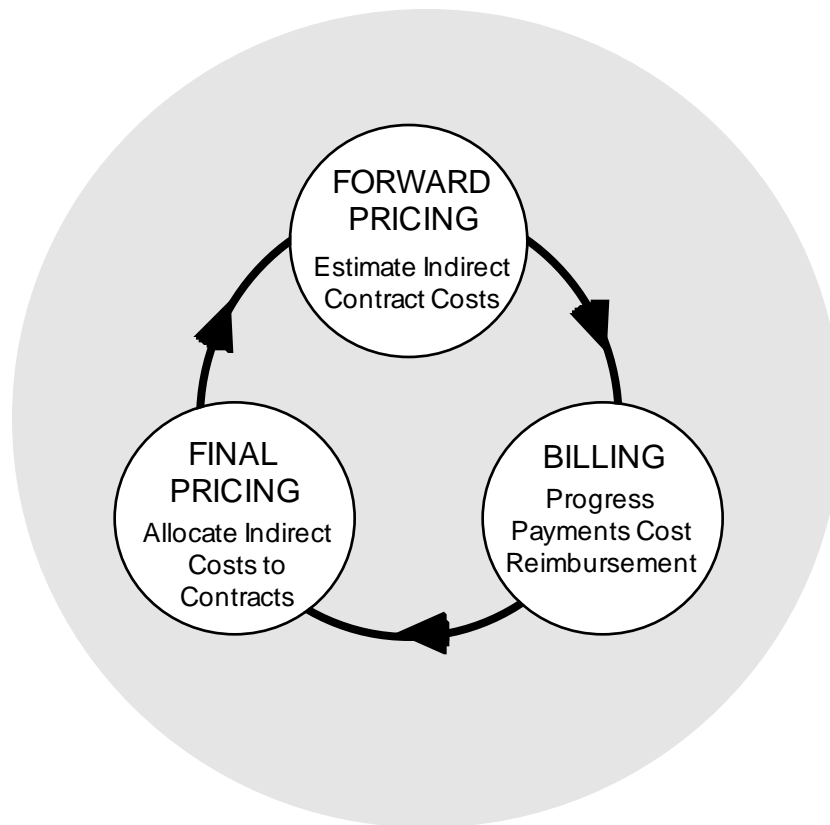
<sup>3</sup> Units of Product refers to units of final product produced. It is only an acceptable base when final products are relatively homogeneous and represent a reasonable measure of benefit from the appropriate pool.

## 1.2.4 Indirect Cost Allocation Cycle

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### Introduction

Actual indirect costs are not known until after the end of the accounting period, because the actual base and pool are not known until then. Rate estimates are used for forward pricing. When a contract requires progress payments or cost-reimbursement, rate estimates are used. Even when the contract is physically complete, we do not know the final contract cost until the close of the cost accounting period. At the close of the accounting period, final rates can be used to determine final contract cost.



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### Allocation Cycle Phases

**Phase 1. Forward Pricing.** During this phase, the contractor proposes forward pricing rates and uses those rates in contract proposal pricing. These rates are estimates and they will remain estimates until the close of the cost accounting period. However, they should be updated as more cost data become available. As part of any cost analysis, the contracting officer responsible for the contract must assure that all forward pricing rates used in contract pricing are reasonable.

Allocation Cycle  
Phases  
(continued)

FAR 42.701 and 42.704
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**Phase 2. Contract Billing.** Contractors must constantly monitor costs during contract performance. Under fixed-price contracts with progress payments and cost-reimbursement contracts, the Government provides the contractor interim reimbursement of indirect cost based on pre-established billing rates. Like forward pricing rates, billing rates are estimates and will remain estimates until the close of the cost accounting period. The contracting officer or auditor responsible for determining final indirect cost rates shall also be responsible for determining the billing rate.

FAR 42.705
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**Phase 3. Final Pricing.** After the cost accounting period is completed, contractors can calculate actual indirect cost rates to determine actual contract cost. For contracts that require final pricing (e.g., fixed-price incentive and cost-reimbursement contracts), the responsible contracting officer or auditor must determine final overhead rates for the contract. This determination will be based on the Government's evaluation of the final overhead rate proposal submitted by the contractor.

Relationship  
Between Phases

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The circular relationship depicted above describes the relationship between cycle phases. Forward pricing rates will affect budget decisions and the rates used in contract billing. The accuracy of billing rate estimates will affect the need for cost adjustment during final contract pricing. Of course, the rates and the data used to support final rates will become part of the data available for estimating forward pricing and billing rates for subsequent accounting periods.

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## 1.3 ESTIMATING INDIRECT COST RATES

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### Section Overview

Forward pricing rates and billing rates are both estimates of the contractor's final indirect cost rates. Both are developed using estimates of the rate base and pool for the period. Initial estimates for a particular accounting period are generally developed before the period begins. In fact, contractors pricing long-term contracts are generally required to forecast rates three to five years into the future. Rate estimates should be updated as more information becomes available, both before and during the accounting period to which the rate applies.

Estimates of indirect costs and indirect rates are developed through the contractor's planning and budgeting system. While the exact process varies from contractor to contractor, the general process follows the steps presented in the table below.

STEP	ACTION
1	<b>Estimate Volume</b> —the total goods and services that the firm expects to sell to ALL customers during each forecast period (e.g., fiscal year of the firm).
2	<b>Estimate Bases</b> —the measures of direct contractor activity that will be used to allocate pool costs based on the benefits accrued by the several cost objectives. Measures can take the form of dollars, hours, or any other appropriate measure.
3	<b>Estimate Pools</b> —logical groupings of indirect costs with a similar relationship to the cost objectives.
4	<b>Estimate Indirect Cost Rates</b> —divide each indirect pool by its base.

---

#### Estimate Volume

The starting point for any rate estimate is a sales forecast. For a manufacturer, estimators will consider the production and sales for each product line. For services, estimators will consider the number of contracts that the firm will be awarded and the effort required to complete each contract. Separate forecasts are developed for each accounting period (normally one year).

*(Topic continued on next page)*



### Estimate Volume (continued)

Forecasts should be based on the best information available. Estimates made prior to the beginning of the accounting period may be based on relatively speculative data. However, estimates should become firmer as more detailed plans are developed for the period.

Forecasts will not be limited to the work associated with your contract, they **must** include **all** work projected to benefit from the indirect cost pool during the accounting period. Estimates should include all work that is on contract, options that may be exercised, proposals with a high probability of success, solicitations in hand, and other anticipated customer requirements.

An accurate estimate of volume is essential to estimating indirect cost rates, because indirect cost pools are typically composed primarily of fixed and semivariable costs. As fixed costs and the fixed component of semivariable costs are spread over more and more direct effort, indirect cost rates will decline. As a result, lower sales volume estimates will result in higher rates, and higher volume estimates will result in lower rates. Given a choice, contractors normally prefer to conservatively estimate business volume, so as not to underestimate cost. However if the contractor is too conservative, the result may be overly high indirect cost rates.

### Estimate Bases

The next step is to translate the sales or volume forecasts into production or performance schedules. Given the projected schedules, the estimator can forecast total direct effort associated with operations during each forecast period. Estimates will include the direct labor and material requirements for the period. Estimates will also include the bases for each indirect cost rate.

#### FAR Table 15-2

FAR Table 15-2 requires<sup>1</sup> the offeror to “Indicate how offeror has computed and applied offeror’s indirect costs, including cost breakdowns, and showing trends and budget data, to provide a basis for evaluating the reasonableness of proposed rates. Indicate the rates used and provide an appropriate explanation.” That information should include:

- An explanation of how the base was estimated.
- An estimate of the size of the base.
- Data on the historical trends in the base.

*(Topic continued on next page)*

<sup>1</sup>Use of Table 15-2 is required for firms submitting cost or pricing data. You can tailor the requirements of Table 15-2 to meet your specific needs when requesting partial or limited data.

#### Estimate Bases (continued)

The contractor's proposal should provide sufficient information for you to understand the:

- Relationship between the estimated base and the estimated sales volume. Make sure that you understand the contractor's rationale, as well as any differences between current estimates and historical relationships.
  - Relationship between the proposed base and related budget estimates. Make sure that you understand the contractor's rationale, as well as any differences between current estimates and historical relationships.
  - Relationship between base estimates and actual bases for past periods. Look for patterns such as consistent underestimation of the base.
- 

#### Estimate Pools

Given the estimated volume of work to be performed, the offeror next estimates the likely size of each indirect cost pool. As with the base, the offeror must provide adequate supporting documentation. The support should include:

- The estimated dollar value of the pool.
- An explanation of how the pool was estimated.
- The date that the pool estimate was developed.
- Data on historical trends in the pool.
- An explanation of any significant differences between the historical, proposed, and budgeted dollar values of the pool.

As described in the section on volume estimates, indirect cost pools are typically composed primarily of fixed and semivariable costs. As volume increases, the indirect cost rate will decrease because the fixed portion of the pool is spread over a larger volume. However, variable indirect costs will increase as the level of business volume increases. As a result, the indirect cost rates will decrease less rapidly than increases in volume, depending on the extent to which the indirect costs are variable or fixed.

To consider the effect that changes in volume have on indirect cost rates, firms typically use flexible budgets. To develop a flexible budget, the firm develops base and pool estimates at various potential volumes. The examples below demonstrates how a flexible budget can be developed.

*(Topic continued on next page)*

### Estimate Pools (continued)

**Example.** An estimate of indirect supplies and services might be developed based on the number of units to be produced. The flexible budget might consider four levels of volume ranging from 4,000 to 7,000 units for the same period:

COST CATEGORY	VOLUME COSTS			
	4,000 UNITS	5,000 UNITS	6,000 UNITS	7,000 UNITS
Supplies & Services	\$32,000	\$33,000	\$34,500	\$35,500

A variety of techniques could be used to estimate the various elements of indirect costs. The number of purchasing department employees could be estimated based on the projected material purchases expressed in constant year dollars. Depreciation could be estimated using the projected depreciation on existing capital assets plus estimated depreciation on proposed future capital expenditures from the contractor's capital budget. Some staff functions may be estimated on a level-of-effort basis. For example, the legal staff may be projected to remain at its present size with projected payroll cost increases estimated at 5% per year.

After the estimator has developed estimates of indirect costs at several potential levels of sales volume, quantitative techniques, such as regression analysis, can be used to define the general relationship between sale volume and indirect cost. Once the general relationship between sales volume and the dollars in the indirect cost pool is established, that relationship can be used to estimate pool costs at other levels of volume within the relevant range.

### Estimate Rates

When all the base and pool estimates have been made, the only task remaining is to divide the pool estimates by the base estimates to establish the rates.

**Rate Forecasts.** The table below presents rate forecasts for the next three years. Note that the base and pool estimates for material, engineering, and manufacturing, become the estimate of Total Cost Input, the base for the G&A Expense rate.

*(Topic continued on next page)*

### 1.3 Estimating Indirect Cost Rates

#### Estimate Rates (continued)

ESTIMATE	19X7	19X8	19X9
Sales Estimate	1,000	1,500	1,300
Direct Material	\$14,145,921	\$17,857,300	\$14,762,049
Material Overhead	\$1,361,000	\$1,562,358	\$1,564,992
Engineering Direct Labor	\$1,582,300	\$1,596,105	\$1,669,141
Engineering Overhead	\$1,023,500	\$1,002,525	\$1,060,045
Manufacturing Direct Labor	\$1,467,200	\$1,910,450	\$1,811,992
Manufacturing Overhead	\$3,679,850	\$4,250,150	\$4,292,500
Total Cost Input	\$23,259,771	\$28,178,888	\$25,160,719
G&A Expense	\$4,426,381	\$4,875,614	\$4,566,581
Total Cost	\$27,686,152	\$33,054,502	\$29,727,300
Material Overhead Rate (Direct Material Cost Base)	9.6%	8.7%	10.6 %
Engineering Overhead Rate (Engineering Direct Labor Cost Base)	64.7%	62.8%	63.5%
Manufacturing Overhead Rate (Manufacturing Direct Labor Cost Base)	250.8%	222.5%	236.9%
G&A Expense Rate (Total Cost Input Base)	19.0%	17.3%	18.1%

FAR 15.804-6  
FAR Table 15-2

**Proposal Submission.** An offeror must include sufficient cost or pricing data in any proposal to facilitate your proposal evaluation. The FAR instructions for submission of cost or pricing data to support proposed indirect costs require the offeror to:

- Indicate how indirect costs were computed and applied to the proposal, including cost breakdowns, and showing trends and budgetary data, to provide a basis for evaluating the reasonableness of proposed rates.
- Indicate the rates used and an appropriate explanation.

Require the contractor to comply with Table 15-2 when submitting cost or pricing data. Consider the requirements of Table 15-2 whenever developing requirements for partial or limited data.

*(Topic continued on next page)*

Estimate Rates  
(continued)

The two tables below provide a more detailed breakdown of the 19X7 Manufacturing Overhead and G&A Expense rates calculated above. Note that the contractor has provided a breakdown of the base and pool as well as historical data to facilitate trend analysis. Any contractor should be able to provide you with this level of data along with detailed rationale for rate projections. Most contractors will provide you with substantially more detailed data. Assure that any data submitted meets solicitation requirements.

*(Topic continued on next page)*

### 1.3 Estimating Indirect Cost Rates

MANUFACTURING OVERHEAD RATE HISTORY AND PROJECTION					
POOL	ACCOUNT TITLE	ACTUAL 19X4	ACTUAL 19X5	ACTUAL 19X6	PROJECTED 19X7
	SALARIES & WAGES				
	Indirect Labor	\$1,338,330	\$1,236,259	\$1,395,245	\$1,443,095
	Additional Compensation	\$80,302	\$75,490	\$83,950	\$88,000
	Overtime Premium	\$13,214	\$15,744	\$11,296	\$14,500
	Sick Leave	\$65,575	\$64,717	\$67,742	\$72,130
	Holidays	\$79,164	\$82,041	\$83,006	\$86,080
	Suggestion Awards	\$310	\$450	\$423	\$500
	Vacations	\$140,272	\$130,223	\$147,891	\$153,300
	PERSONNEL EXPENSES				
	Compensation Insurance	\$25,545	\$24,544	\$26,304	\$28,500
	SUTA/FUTA <sup>1</sup>	50,135	\$46,762	\$52,692	\$51,500
	FICA/Medicare	\$70,493	\$65,990	\$73,907	\$77,850
	Group Insurance	\$153,755	\$143,670	\$161,401	\$169,130
	Travel Expense	\$11,393	\$9,636	\$12,725	\$13,900
	Dues & Subscriptions	\$175	\$175	\$175	\$175
	Recruiting & Hiring	\$897	\$431	\$574	\$250
	Employee Relocation	\$4,290	\$3,891	\$3,562	\$4,400
	Employee Pension Fund				
	Salaried	\$25,174	\$25,062	\$26,350	\$28,500
	Hourly	\$62,321	\$58,132	\$65,497	\$68,700
	Training, Conferences, & Technical Meetings	\$418	\$407	\$539	\$457
	Educational Loans & Scholarships	\$400	\$400	\$400	\$400

<sup>1</sup> SUTA is State Unemployment Tax Allowance. FUTA is Federal Unemployment Tax Allowance.

*(Manufacturing Overhead table continued on next page)*

MANUFACTURING OVERHEAD RATE HISTORY AND PROJECTION (CON'T)					
ACCOUNT TITLE		ACTUAL 19X4	ACTUAL 19X5	ACTUAL 19X6	PROJECTED 19X7
Pool (Con't)	SUPPLIES & SERVICES				
	General Operating	\$495,059	\$475,564	\$509,839	\$525,000
	Maintenance: Building	\$9,102	\$8,640	\$12,318	\$15,700
	Stationary, Printing, & Office Supplies	\$23,052	\$21,530	\$24,125	\$25,500
	Material O/H on Supplies	\$56,566	\$49,305	\$62,071	\$62,500
	Maintenance: Office Equipment	\$9,063	6,673	\$10,875	\$12,000
	Rearranging	\$418	\$2,128	\$3,523	\$3,600
	Other	\$3,314	\$3,198	\$2,635	\$2,500
	Heat, Light, & Power	\$470,946	\$446,971	\$489,123	\$507,200
	Telephone	\$32,382	\$30,414	\$33,874	\$35,000
	FIXED CHARGES				
	Depreciation	\$187,118	\$178,625	\$175,641	\$181,850
	Equipment Rental	\$7,633	\$7,633	\$7,633	\$7,633
	Total "Manufacturing Overhead" Expense Pool	\$3,416,816	\$3,214,705	\$3,545,336	\$3,679,850
Base	MANUFACTURING DIRECT LABOR COST				
	Assembly Labor	\$934,444	\$898,780	\$950,432	\$999,700
	Fabrication Labor	\$233,071	\$225,950	\$253,999	\$258,100
	Inspection Labor	\$173,372	\$180,928	\$203,500	\$209,400
	Total Manufacturing Direct Labor Cost	\$1,340,887	\$1,305,658	\$1,407,931	\$1,467,200
Rate	Manufacturing Overhead Rate	254.8%	246.2%	251.8%	250.8%

### 1.3 Estimating Indirect Cost Rates

	GENERAL & ADMINISTRATIVE EXPENSE RATE HISTORY AND PROJECTION				
	ACCOUNT TITLE	ACTUAL 19X4	ACTUAL 10X5	ACTUAL 19X6	PROJECTED 19X7
Pool	SALARIES & WAGES				
	Indirect Labor	\$1,407,100	\$1,426,042	\$1,458,724	\$1,460,500
	Additional Compensation	\$125,431	\$120,410	\$152,691	\$155,000
	Overtime Premium	\$4,883	-0-	\$5,069	\$5,000
	Sick Leave	\$34,875	\$33,262	\$32,937	\$32,500
	Holidays	\$49,962	\$49,260	\$50,013	\$49,500
	Suggestion Awards	\$240	\$402	\$225	\$250
	Vacations	\$80,637	\$79,260	\$81,398	\$82,525
	PERSONNEL EXPENSES				
	Compensation Insurance	\$1,025	\$902	\$1,103	\$1,200
	SUTA/FUTA	\$22,465	\$21,526	\$23,591	\$23,600
	FICA	\$31,419	\$28,620	\$31,519	\$32,000
	Group Insurance	\$29,008	\$28,942	\$29,226	\$29,300
	Travel Expense	\$62,513	\$70,001	\$64,987	\$67,000
	Dues & Subscriptions	\$2,375	\$2,210	\$2,119	\$2,500
	Recruiting	\$1,378	\$902	\$1,075	\$1,250
	Employee Relocation	\$566	\$2,125	\$1,974	\$1,500
	Employee Pension Fund				
	Salaried	\$33,097	\$31,625	\$34,123	\$35,000
	Hourly	\$17,632	\$15,260	\$17,956	\$18,500
	Training, Conferences, & Technical Meetings	\$7,003	\$8,102	\$7,536	\$7,500
	Courtesy Meal Expense	\$6,238	\$6,124	\$5,436	\$7,000
	Educational Loans & Scholarships	\$1,392	\$624	\$1,525	\$1,500

(General and Administrative Overhead table continued on next page)



	GENERAL & ADMINISTRATIVE EXPENSE RATE HISTORY AND PROJECTION (CON'T)				
	ACCOUNT TITLE	ACTUAL 19X4	ACTUAL 10X5	ACTUAL 19X6	PROJECTED 19X7
Pool (Con't)	SUPPLIES				
	Operating	\$2,010	\$1,862	\$1,724	\$2,000
	Maintenance - Building	\$411	\$4,262	\$856	\$750
	Stationary, Printing, & Office Supplies	\$32,515	\$27,640	\$33,209	\$33,500
	Postage	\$1,651	\$2,316	\$2,056	\$2,100
	Material O/H on Supplies	\$1,732	\$1,710	\$1,634	\$1,980
	Maintenance - Equipment	\$938	\$950	\$983	\$1,000
	Other	\$15,829	\$18,216	\$16,982	\$17,500
	PUBLIC UTILITIES				
	Telephone	\$59,105	\$63,142	\$61,372	\$65,000
	Heat, Light, & Power	\$237,512	\$211,403	\$241,298	\$245,000
	MISCELLANEOUS INCOME & EXPENSE				
	Legal & Auditing	\$16,714	\$18,260	\$10,945	\$15,000
	Professional Services	\$21,197	\$24,000	\$23,791	\$22,500
	Patent Expense	\$18,466	\$17,620	\$9,084	\$10,000
	Public Relations	\$12,155	\$14,670	\$14,172	\$15,000
	INTERDIVISIONAL TRANSFERS				
	At Cost	(\$48,243)	-0-	-0-	-0-
	CORPORATE EXPENSE				
	Headquarters	\$1,556,956	\$1,467,024	\$1,673,824	\$1,700,000
	FIXED CHARGES				
	Insurance Property	\$9,820	\$9,926	\$10,930	\$11,000
	Insurance Inventories	\$4,024	\$4,862	\$4,543	\$4,500
	Franchise Tax	\$268,495	\$260,126	\$246,624	\$265,000
	Rent - Equip	\$1,426	\$1,426	\$1,426	\$1,426
	Total G&A Expenses	\$4,131,952	\$4,075,014	\$4,358,680	\$4,426,381

(General and Administrative Overhead table continued on next page)

### 1.3 Estimating Indirect Cost Rates

GENERAL & ADMINISTRATIVE EXPENSE RATE HISTORY AND PROJECTION (CON'T)					
ACCOUNT TITLE		ACTUAL 19X4	ACTUAL 10X5	ACTUAL 19X6	PROJECTED 19X7
Base	TOTAL COST INPUT				
	Engineering Ovhd Expense	\$1,025,345	\$952,614	\$1,153,612	\$1,023,500
	Engineering Direct Labor	\$1,385,765	\$1,446,420	\$1,579,595	\$1,582,300
	Manufacturing Ovhd Expense	\$3,416,816	\$3,214,705	\$3,545,336	\$3,679,850
	Manufacturing Direct Labor	\$1,340,887	\$1,305,658	\$1,407,931	\$1,467,200
	Materials Ovhd Expense	\$1,234,456	\$1,205,621	\$1,296,179	\$1,361,000
	Direct Materials	\$13,056,987	\$13,042,160	\$13,484,836	\$14,145,921
	Total Cost Input	\$21,460,256	\$21,167,178	\$22,467,489	\$23,259,771
Rate	G&A Rate	19.3%	19.3%	19.4%	19.0%

## 1.4 ANALYSIS OF ESTIMATED RATES

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### Data for Analysis

FAR 15.804-6 FAR Table 15-2
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In Section 1.3, you learned about contractor development of indirect cost projections and the requirements of FAR 15.804-6 including FAR Table 15-2. Remember that the contractor must provide all the data required by Table 15-2 in support of any proposal requiring the submission of Certified Cost or Pricing Data. You should tailor cost or pricing data requirements based on your knowledge of the contractor and industry involved. When full cost or pricing data are not required, use the requirements of Table 15-2 to tailor your requirements for partial or limited data.

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### Electronic Data Submission

You should also consider the advantages and disadvantages of electronic data submission. Electronic data submission will save time involved in rekeying data for analysis. However, there may be costs associated with the compatibility between the system used by the contractor for proposal development and the system that you use for proposal analysis.

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### Analysis Support

Analysis of indirect cost rate projections requires knowledge of the firm and its business practices. Government auditors and contract administration personnel can provide vital information to support your analysis. In many cases, they can provide forward pricing rate recommendations (FPRRs) or forward pricing rate agreements (FPRAs).

The largest Government audit and contract administration activities are part of the Department of Defense, the Defense Contract Audit Agency (DCAA) and Defense Contract Management Command (DCMC). Personnel from both organizations are assigned to major DoD contractor plants and itinerant representatives support contracting activities throughout the United States and in many foreign countries. If you are assigned to another Government agency, you can request DCAA or DCMC support through your agency Inspector General.

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## Analysis Steps

When you analyze indirect costs, follow the 6-step procedure described in this section.

STEPS FOR ANALYSIS OF RATE PROJECTIONS	
Steps	Action
1	Develop analysis plan.
2	Identify unallowable costs.
3	Analyze the base estimate.
4	Convert the base and pool to constant-year dollars.
5	Analyze the base/pool relationship.
6	Integrate analysis results.

## Develop an Analysis Plan

Before you begin analysis of indirect costs, review the proposal and develop an analysis plan. Unless required by agency or local procedures, the plan need not be in writing, but it must consider the risk to Government in terms of dollars involved and probability that the projections are reasonable estimates of actual indirect costs.

**Analysis of Risk**

Questions to consider in your analysis of risk to the Government include:

- **How many dollars are at risk?**

Consider the cost effectiveness of the analysis. For example, it would make little sense to invest \$30,000 in the analysis of \$20,000 of indirect cost.

- **Does the company have an adequate estimating system that is free from allegations of defective pricing or fraud?**

The risk to the Government increases when the firm does not provide adequate data for indirect cost analysis. An estimating system that has not been determined to be adequate for pricing purposes increases the risk to the Government. An estimating system that has been subject to allegations of defective pricing or fraud increases the risk even more.

Develop an  
Analysis Plan  
(continued)

- **Have the offeror's estimates been accurate in the past?**

Consider the contractor's past projection accuracy. If past projections have been poor estimates of actual indirect costs, the risk to the Government is greater than it is in situations where past estimates have been quite accurate. This does not mean that you should accept offeror estimates without analysis. Even when past estimates have been quite accurate, the contractor can still make errors in forecast development.

As you consider the risk to the Government, you should consider both the size and the consistency of the overestimates. The following table presents an example:

YEAR RATE PROJECTION MADE	RATE PROJECTED FOR	PROJECTED RATE	ACTUAL RATE	SUBTRACT ACTUAL RATE FROM THE PROJECTED RATE
19X5	19X6	259.1%	254.8%	4.3%
19X4	19X5	256.3%	251.8%	4.5%
19X3	19X4	260.0%	254.8%	5.2%

Note that the company overestimated this indirect cost rate in every year. On average, the contractor over-estimates the actual rate by 1.8%, calculated as follows.

$$\frac{4.3 + 4.5 + 5.2}{254.8 + 251.8 + 254.8} = \frac{14.0}{761.4} = .018(1.8\%)$$

If all company contracts during those three years were priced using the company estimated rate, customers would have been charged an average of \$101.80 for every \$100 in actual costs.

### Consider Risk in Plan Development

As the risk to the Government increases, the intensity of analysis should also increase. For example, summary indirect cost analysis considering the overall relationship between the base and pool may be acceptable for pricing contract actions with little indirect cost risk. However, a proposal with significant risk should merit an in-depth analysis. The decision on the detail of the analysis rests with you, the contracting officer.

### Identify Unallowable Costs

FAR 31.201-6
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Costs that are expressly unallowable or mutually agreed to be unallowable must be identified and excluded from any proposal, billing, or claim related to a Government contract. When an unallowable cost is incurred, any cost related to its incurrence is also unallowable.

Contractors must identify unallowable indirect costs whenever indirect cost rates are proposed, established, revised, or adjusted. The detail and depth of records required as rate support must be adequate to establish and maintain visibility of the indirect cost.

Any indirect cost analysis should specifically identify unallowable costs to assure proper treatment in rate development.

- Unallowable costs must be removed from any indirect cost pool estimate, because Government contracts cannot include unallowable costs.
- When contractor base estimates include unallowable costs, the unallowable costs must be considered in Government rate projections to assure proper allocation of costs across all cost objectives.

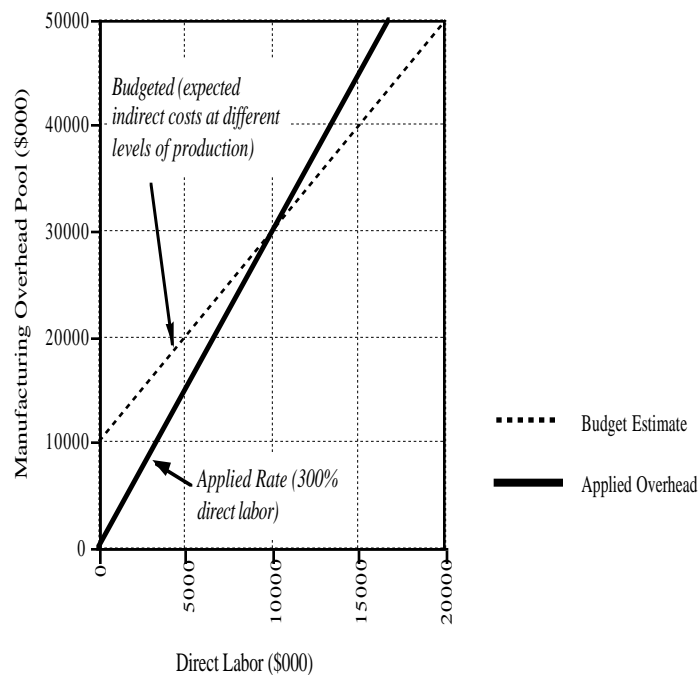
Consider the tests for cost allowability identified in Section 1.1.3 and the following table as you perform your analysis.

POINTS TO CONSIDER IN ANALYZING INDIRECT COST ALLOWABILITY	
If:	Then:
The proposed dollar amount is NOT reasonable	Reduce the dollar amount of the pool to reflect a more reasonable dollar value for that item
The proposed cost should have been treated as a direct cost (either against your contract or someone else's contract)	Subtract that cost from the total dollar value of the pool, and ensure the cost is directly charged to the proper contract.
This cost belongs in a different indirect cost pool.	Subtract that cost from this pool and add it to the dollar value of the correct pool.
The same cost is also represented in another indirect pool, or as a direct cost, or as part of a loading factor, (e.g., a packaging or obsolescence factor)	This is double charging. Develop your position on where the cost should be recognized and where it should be deleted from the proposal.
The proposed cost is NOT properly allocable, in part or in whole, to the pool under CAS or GAAP	Reallocate the cost consistent with the terms of the appropriate CAS or GAAP requirement.
The proposed cost is NOT allowable, in part or in whole, under the cost principles in FAR Part 31.205	Reduce the dollar amount of the pool commensurately.
The proposed cost is NOT allowable, in whole or in part, under the terms and conditions of the contract	

## Analyze the Base Estimate

FAR 31.203(b)

The rate base should be selected so as to permit allocation of the indirect cost pool to the various cost objectives on the basis of benefits accruing each cost objective. The size of the estimate is important because most indirect cost pools include fixed costs. As the size of the base increases, the rate will decrease because the fixed expenses are being spread over a larger base. As the size of the base decreases, the rate will increase because the fixed expenses are being spread over a smaller base. The result of an inaccurate estimate can be demonstrated through the use of the following figure:



The Applied Overhead line represents the negotiated indirect cost forward pricing rate (300% of direct labor dollars). The Budget Estimate line represents the firm's forecast of the pool at different levels of production. Note the following characteristics of the two lines:

- The Applied Overhead line passes through the origin, because indirect costs can only be charged if product is produced and sold. 300% of nothing equals nothing.
- The Budget Estimate line has a positive intercept at \$10 million. In other words, Manufacturing Overhead includes \$10 million in fixed costs.
- The two lines intersect at the direct labor estimate of \$10,000,000 for the year—the point at which a 300% rate would recover \$30,000,000 in indirect costs.

*(Topic continued on next page)*

Analyze the Base Estimate  
(continued)

However, if the base is anything other than \$10 million, use of the 300 percent rate will not equal the actual indirect cost.

If the base were actually \$5 million at the end of the period, the actual indirect cost would be \$20 million. If indirect costs for all contracts had been estimated using the 300 percent rate, only \$15 million would be applied (charged) to the contracts. Indirect cost would be **under-applied** by \$5 million (\$20 million – \$15 million). If the contracts were all firm fixed price, that \$5 million would come out of the contractor's profits.

If the base were actually \$15 million at the end of the period, the actual indirect cost would be \$40 million. If indirect costs for all contracts had been estimated using the 300 percent rate, \$45 million would be applied to the contracts. Indirect cost would be **over-applied** by \$5 million (\$45 million – \$40 million). If the contracts were all firm fixed price, the result would be \$5 million in additional profit.

As a minimum, consider the following questions in your analysis of indirect cost allocation bases:

- ***Did the offeror use the correct base period as required by FAR 31.203(e)?***

FAR 31.203(e)  
FAR 9904.406-40

The base period for allocating indirect costs is the cost accounting period during which such costs are incurred and accumulated for distribution to work performed during that period. Generally the base period is the contractor's fiscal year. A shorter period<sup>2</sup> may be appropriate:

- For contracts in which performance involves only a minor portion of the fiscal year,
- When it is general practice in the industry to use a shorter period, or
- During a transitional cost accounting period as part of a change in fiscal year.

When a contract is performed over an extended period, as many base periods shall be used as are required to represent the period of contract performance.

*(Topic continued on next page)*

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<sup>2</sup>Be leery of any projections developed using a base period shorter than the firm's fiscal year. Assure that the firm is not unreasonably allocating charges that should be allocated to all cost objectives over the fiscal year.



Analyze the Base  
Estimate  
(continued)

- ***Does the base include all costs associated with that base, whether allowable or not?***

You learned above that unallowable costs must be excluded from any proposed indirect cost pool. However, all costs are part of the base—even the unallowables. Hence, if a pool becomes a base for another indirect cost account, such as G&A Expense, the unallowable costs must be added back into the G&A Expense base.

- ***Will the base result in a fair allocation of the costs in the pool?***

FAR 31.203(b)

Indirect costs must be accumulated by logical cost groupings with due consideration of the reasons for incurring such costs. The base should be selected so as to permit allocation of the grouping on the basis of benefits accruing to the several cost objectives.

If the pool is largely labor related (such as fringe benefits), the base should be a measure of labor effort, such as labor hours or dollars. If the pool is largely machinery related (such as depreciation and maintenance), the base should relate to machinery use, such as machine hours.

- ***When was the base estimate made?***

If the offeror is estimating a base for the fiscal year, an estimate made mid-way through the fiscal year is likely to be more accurate than an estimate made at the beginning of the year. Likewise, an estimate made for the next fiscal year should be more reliable than an estimate for a period three years in the future.

- ***What information did the offeror consider in estimating the base?***

The offeror does not have perfect knowledge of what is going to happen in the future. Estimators must consider more than known business for the period in estimate development. Typically, the offeror will consider the following business forecast elements:

- Contracts in hand
- Options that may be exercised
- Proposals with a high probability of success (e.g., BAFOs)
- Solicitations in hand
- Sales forecasts of future customer requirements

Each element of the forecast should be assigned a probability of actual sale. Contracts in hand would be 100 percent. Other estimates would be assigned a lower “win” probability, based on an analysis of the probability of actually making the sale.

*(Topic continued on next page)*

Analyze the Base Estimate  
(continued)

Be concerned about the reliability of such forecasts. If the firm's sales consist of only a few large Government contracts, place little faith in statistical estimates. Instead rely on the best expressions of Government plans. Where the total business activity of the firm includes a larger number of relatively small orders, give greater credence to statistical projections that are correctly made, given the available data.

- ***Are there other data that are significant to estimating the base?***

For example, did the offeror factor in all contracts and BAFOs that may affect volume during the period? Use the cognizant auditor and ACO as your principal sources for verifying that all relevant data are considered.

- ***How stable has the base been over time?***

Particularly with respect to small businesses that are heavily dependent on a few contracts, the base may be quite unstable. If such a firm loses only one contract, indirect rates on its remaining contracts might skyrocket. That would be particularly significant if your contract with the firm would be cost reimbursable. You may need to consider contract terms to protect the Government from the risk of unexpected, substantial changes in burden rates.

Convert the Base and Pool to Constant-Year Dollars

Any analysis of changes in indirect costs should concentrate on real changes in indirect cost activity. To do this, you need to consider the changing value of the dollar. Unfortunately, it may be impossible for you to adjust for inflation when you are performing a summary level analysis, because there is rarely a single price index that you can use to adjust an entire indirect cost pool for inflation/deflation. The reason is the many different types of cost and cost behaviors typically included in indirect cost pools. For example, during a period of general inflation, depreciation will decline unless the contractor acquires new depreciable assets. The price of gasoline for company cars may rise rapidly as the cost of office supplies is declining.

On the other hand, if you are performing a detailed analysis of individual elements of an indirect cost account, you may be able to identify one or more indexes to use in adjusting for the changing value of the dollar. If the contractor has adjusted costs for inflation and the contractor's index number selection is reasonable, use it. If you have any concerns about the contractor's adjustments for inflation, deal with them before proceeding with further analysis.

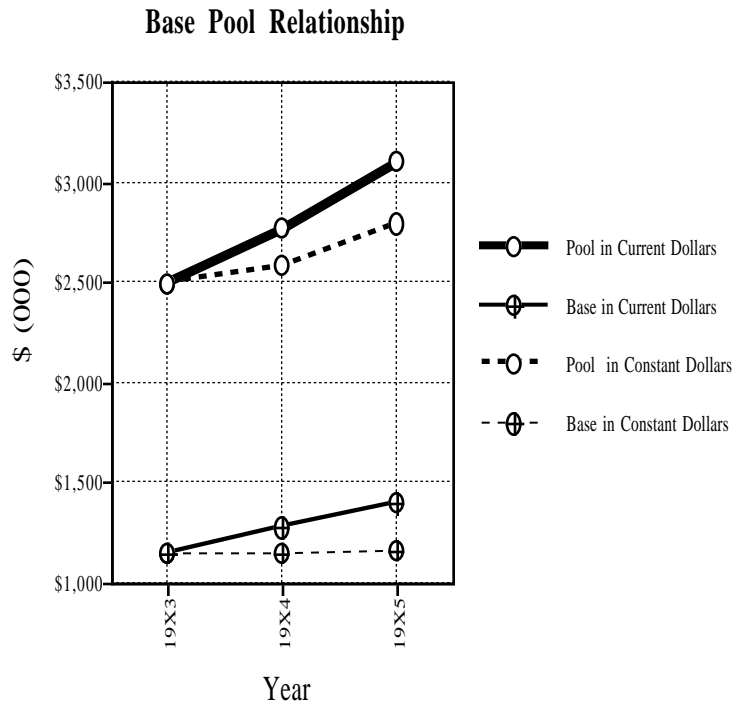
*(Topic continued on next page)*

Convert the Base  
and Pool to  
Constant-Year  
Dollars  
(continued)

We will demonstrate the use of this technique using the following example. The following actual costs for 19X3, 19X4, and 19X5 along with projected costs for 19X6 were taken from a contractor's proposal for an indirect pool:

		19X3 (ACTUAL)	19X4 (ACTUAL)	19X5 (ACTUAL)	19X6 (PROJECTED)
<b>Current-Year Dollars</b>	<b>Pool</b>	\$2,502,490	\$2,768,851	\$3,110,004	\$3,510,141
	<b>Base</b>	\$1,154,650	\$1,270,115	\$1,397,115	\$1,536,839
	<b>Rate</b>	216.7%	218.0%	222.6%	228.4%
<b>Constant -Year Dollars (Adjusted For Inflation)</b>	<b>Pool</b>	\$2,502,490	\$2,590,650	\$2,799,804	\$2,996,000
	<b>Base</b>	\$1,154,650	\$1,153,900	\$1,156,500	\$1,155,000
	<b>Rate</b>	216.7%	224.5%	242.1%	259.4%

The following graph depicts the data presented in the above table. The solid lines depict independently the base and pool in current-year (unadjusted for inflation) dollars. The dotted lines depict the same information in constant-year (19X3) dollars.



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Convert the Base  
and Pool to  
Constant-Year  
Dollars  
(continued)

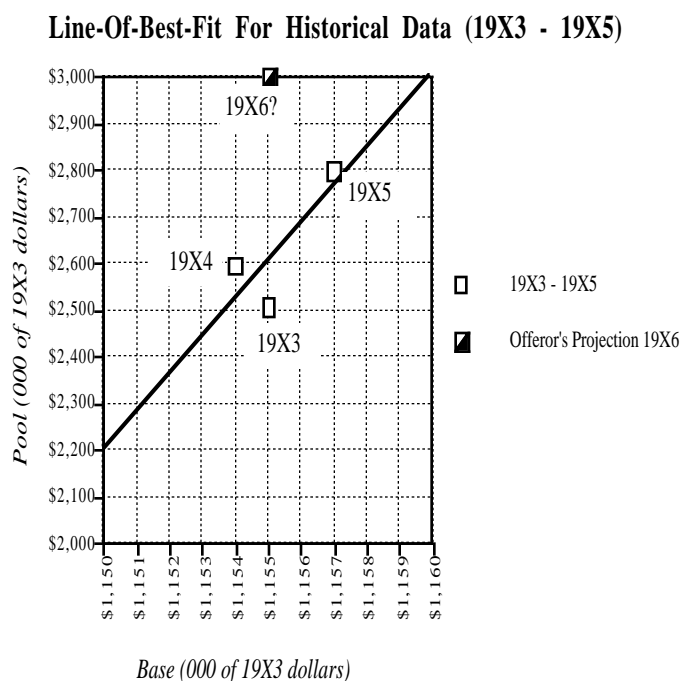
Both the table and the graph show fluctuating base and pool dollars. However, they indicate that the inflation adjusted indirect cost rate is actually higher than the rate based on current-year dollars. It appears that inflation is masking real substantial growth in the rate.

Analyze the  
Pool/Base  
Relationship

Examine the historic relationship between base and pool. The analysis can be performed at a summary level or involve an in-depth analysis of the accounting data used to develop the proposed burden rate.

If detailed data are not available or the dollar value of the contract does not warrant detailed projection analysis, a summary level analysis can be performed using regression (line-of-best-fit) analysis. Remember that both the base and pool change with actual growth or decline in business activity. Using regression analysis will enable you to establish the historical base/pool relationship and use that relationship in indirect cost analysis.

The following graph demonstrates application of this technique to the data on constant year dollars from the example on the previous page.



*(Topic continued on next page)*

### Analyze the Pool/Base Relationship (continued)

In your review of the above graph, note that projection for 19X6 falls well above the value that you would project based on the historical base/pool relationship. When the contractor's estimate is substantially above or below the line, you should challenge the estimate. If the contractor refuses to reduce its rate and cannot explain the reasons for the difference, consider a more detailed analysis.

When changes in cost patterns are identified, questions concerning the reasons for the change should include the following:

- ***Has the composition of the pool or base changed over time?***

Be alert to any changes in the composition of either the base or pool. The offeror may have automated. Automation would increase depreciation expense in the indirect cost pool while decreasing any base related to direct labor. Indirect cost rates could increase while total cost declines.

- ***Is the firm using the same rate structure for estimating purposes?***

A change in rate structure could result in costs being moved from one indirect cost pool to another. Ask the offeror if such changes have taken place.

- ***Are changes in the rate consistent with the structure of the indirect cost pool?***

If the indirect cost pool is primarily composed of variable costs, the rate should be relatively insensitive to changes in business activity. If the indirect cost pool is primarily composed of fixed costs, the rate should be very sensitive to changes in business activity.

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### Integrate Analysis Results

The final step of your indirect cost rate analysis is to integrate the results of the first five steps of your analysis.

Step 1. You estimated the risk to the Government related to the indirect cost rate estimate and planned your analysis based on that estimate.

Step 2. You examined the projections to assure that unallowable costs are properly identified and considered in indirect cost rate development.

Step 3. You analyzed the base estimate in relationship to projections of business volume to determine if it is a reasonable estimate for the rate period.

*(Topic continued on next page)*

Integrate Analysis  
Results  
(continued)

Step 4. You considered the effect that the changing value of the dollar is having on the rate.

Step 5. You analyzed the historic base/pool relationship and compared the projected rate with the historical relationship. The contractor was asked to explain any differences between the projected rate and the rate that you would project based on the historical base/pool relationship.

Now based on the results of your analysis, you must finalize your rate projection. In making your estimate of a reasonable indirect cost rate, consider the contractor's response to any questions that you may have asked as part of your analysis.

As part of the integration process, you should develop minimum and maximum positions, as well as your objective. In developing these negotiation positions, consider any variability and related risk that you identified during your analysis. One of the primary indicators of risk is the prediction interval calculated during regression analysis. You might use the limits of the prediction interval to develop minimum and maximum negotiation positions. If the interval is too large, you should consider a more detailed analysis to reduce risk and better define a reasonable rate.

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## 1.5 CONTRACT FORWARD PRICING

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### Introduction

One important use for indirect cost rate estimates is contract forward pricing. Contract pricing estimates of indirect costs for specific contracts and contract line items are developed by applying the estimated rate to appropriate contract-related base. The indirect cost estimate will depend on both the rate and the size of the base related to contract performance.

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### Forward Pricing Rates

You may or may not have assistance from Government experts in developing your position on reasonable forward pricing rates. If you must perform your own analysis, you should follow the steps for analysis delineated in Section 1.5. You should utilize any assistance available from Government audit and/or contract administration personnel.

As you perform your analysis, you should consider:

- The offeror's proposed forward pricing rates
- Audit recommended rates
- Negotiated forward pricing rate agreements (if any)

**Proposed Forward Pricing Rates.** The starting point for indirect cost rate analysis is the contractor's proposal. You learned about contractor proposal development in Section 1.3 and about analysis of rate projections in Section 1.4.

**Audit Recommended Rates.** These are rates developed by Government audit personnel as a result of their review of rate proposal. Audit reports typically recommend positions on proposed indirect rates.

*(Topic continued on next page)*

Forward Pricing  
Rates  
(continued)

**Forward Pricing Rate Recommendations.** Forward Pricing Rate Recommendations (FPRRs) are formal rate recommendations developed by the cognizant ACO for all Government buying activities. FPRRs are generally developed with assistance from the cognizant Government auditor.

When a contractor has a high volume of Government pricing actions, ACOs should consider establishing an FPRR:

- When the contractor refuses to submit an FPRA proposal or enter into an FPRA,
- During the period between cancellation of one agreement and the establishment of a replacement agreement, or
- During the period between agreement on an FPRA by Government/contractor negotiators and formal execution of the agreement.

Although FPRRs are only recommendations, you should not develop an independent position without first contacting the contract administration office that issued the FPRR. When negotiating a contract or contract modification for which cost or pricing data are required, consider inviting the ACO that issued the FPRR and cognizant auditor to attend negotiations concerning indirect cost rates.

FAR 15.809  
FAR Table 15-2

**Forward Pricing Rate Agreements.** Negotiating indirect rates tends to be time consuming and contentious. At contractor locations with significant Government business, the cognizant administrative contracting officer (ACO) should attempt to negotiate an FPRA.

An FPRA is a formal bilateral agreement that binds (1) the contractor to propose the negotiated rates and (2) the Government to accept them in pricing individual contracts. Each agreement includes provisions for overturning all or a portion of the agreement if circumstances change and the rate(s) are no longer valid representations of future costs.

The ACO is responsible for monitoring the contractor's rates. Therefore, any questions on the status and acceptability of FPRAs should be directed to the ACO. Further, if you believe that work to be performed on your contract will significantly affect the rates, you should notify the ACO immediately and request a review to determine the impact of your contract.

*(Topic continued on next page)*



Forward Pricing  
Rates  
(continued)

FAR Table 15-2 requires that if agreement has been reached with Government representatives on forward pricing rates, the offeror must identify the agreement, include a copy, and describe the nature of the agreement. The agreement description should identify the Government representative with whom the agreement was reached, the date of the agreement, and the period of contemplated use.

Rate Application

Once you have determined the rate(s) that you will use in contract pricing, you must apply that rate as part of your cost analysis. Using the contractor proposed rates from Section 1.3, the following table presents a contract cost estimate for 19X7:

<b>CONTRACT COST ESTIMATE</b>	
<b>Cost Element</b>	<b>Proposed Cost</b>
Material Dollars	\$200,000
Material Overhead @ 9.6%	\$19,200
Engineering Direct Labor	\$5,000
Engineering Overhead @ 64.7%	\$3,235
Manufacturing Direct Labor	\$75,000
Manufacturing Overhead @ 250.8%	\$188,100
Total Input Cost	\$490,535
G&A Expense @ 19.0%	\$93,202
Total Cost	\$583,737

The following is the process by which the offeror developed a cost proposal of \$583,737 to perform the work.

- Estimate direct material and direct labor costs of performance, using appropriate estimating techniques.
- Multiply the proposed Material Dollar base by the Material Overhead Rate (9.6%), resulting in a contract Material Overhead estimate of \$19,200.
- Multiply the proposed Engineering Labor Dollar base by the Engineering Overhead Rate (64.7%), resulting in a contract Manufacturing Overhead estimate of \$3,235.
- Multiply the proposed Manufacturing Labor Dollar base by the Manufacturing Overhead Rate (250.8%), resulting in a contract Manufacturing Overhead estimate of \$188,100.

*(Topic continued on next page)*

### Forward Pricing Rates (continued)

- Total the proposed production input costs (\$490,535).
- Multiply Total Cost Input by the proposed G&A Expense rate (19.0%), resulting in a contract G&A Expense estimate of \$93,202.
- Add the estimated G&A Expense dollars to the Total Cost Input, resulting in a total proposed cost of \$583,737.

Apply the indirect cost rate to all work included in the base. For example, if the direct labor costs from three departments—machining, fabricating, and assembly — are the base for the Manufacturing Overhead rate, you must multiply the sum total of **all** machining, fabricating, and assembly direct costs by the Manufacturing Overhead rate to estimate the dollar figure for Manufacturing Overhead.

On the other hand, do not apply the Manufacturing Overhead rate to cost categories not included in the base. You would not apply Manufacturing Overhead to field service labor cost if field service labor costs were not part of the allocation base used in developing the rate. **Only apply overhead rates to those costs included in the allocation base.**

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### Causes of Estimate Differences

Differences between the contractor's estimate of indirect costs and your estimate can come from two sources—rate differences and base differences. You need to be aware of the sources of cost differences as you prepare for contract negotiations. Remember that even if you accept the contractor's proposed rate, your indirect cost objective will be lower than the costs proposed, if the base you are using is lower than the contractor's proposed base.

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## 1.6 CONTRACT BILLING

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### Section Overview

Analysis of indirect costs during contract pricing provides a snapshot of the indirect cost rate structure at one point in time during the Indirect Cost Cycle. However, until the accounting period is complete and rates are final, that snapshot is only one estimate of indirect cost rates. That estimate could change at any time as new information becomes available.

For firm fixed-price contracts without progress payments, the contract price is fixed and it will not be affected by changes in the indirect cost rates. As a result, the responsibility for monitoring rates during contract performance rests with the contractor.

For firm fixed-price contracts with progress payments based on cost, the contract price is fixed but the amount of individual progress payments will depend in part on the indirect cost rates used for progress payment billing. For fixed-price incentive contracts, cost-reimbursement contracts, and contracts which involve prospective price redetermination, the amount paid during contract performance (progress payments and cost-reimbursement) will depend in part on the indirect cost rates used for billing. In these cases, the Government must establish and monitor billing rates.

As you learned in Section 1.2.4, interim billing rates (like forward pricing rates) are estimated rates. In this Section, we will examine elements associated with establishing billing rates, adjusting billing rates, and disallowing unallowable costs related to contractor requests for progress payments or cost reimbursement.

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## 1.6.1 Establishing Billing Rates

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### Introduction

FAR 42.701 and  
42.704

The contracting officer or auditor responsible for determining final indirect cost rates shall also be responsible for determining the contract billing rate. A billing rate is an indirect cost rate established temporarily for interim reimbursement of incurred indirect costs and adjusted as necessary pending the establishment of final indirect cost rates.

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### Billing Rate Importance

A billing rate that is too high will result in increased progress payments and cost reimbursement. The contractor will have the use of the Government's money interest free until final contract pricing. For contracts that provide for price adjustment based on contract costs, estimates of final contract price will be inflated. That inflation could lead to poor management decisions to control costs or assure performance within available funds.

A billing rate that is too low will result in decreased progress payments and cost reimbursement. Contract performance may be affected by funds shortages. Contractor profits may be affected by the need to borrow to cover funds shortages and low profitability may drive firms away from Government contracting.

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### Basis for Rate Development

FAR 42.704(b)

If you are the contracting officer responsible for establishing the interim billing rate(s), you will develop the rate based on a contractor proposal. Normally, that proposal will be developed using the same detailed information used to estimate and propose forward pricing rates. However, if you determine that the value of contracts requiring use of a billing rate does not warrant submission of a detailed billing rate proposal, you can establish the billing rate by making appropriate adjustments from the prior year's indirect cost experience to eliminate unallowable and non-recurring costs and to reflect new or changed conditions.

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## Certification of Indirect Costs

DFARS 252.242-7001 and 242.770
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Unless the requirement is waived (see below), the DFARS clause, Certification of Indirect Costs, must be included in any DoD contract that provides for:

- Interim reimbursement of indirect costs,
- Establishment of final cost rates, or
- Contract financing that includes interim payment of indirect costs (e.g., progress payments based on cost or progress payments based on stage or percentage of physical completion) must include the provision Certification of Indirect Costs.

Under that provision, the contractor must certify any proposal to establish or modify billing rates or establish final indirect cost rates.

- Do not accept any billing rate or final indirect cost rate proposal unless it includes a completed certificate.
- Do not agree to billing rates or final indirect rates based on a contractor's proposal, unless it is certified.

*(Topic continued on next page)*

Certification of  
Indirect Costs  
(continued)

DFARS 252.242-  
7001

**Certificate.** To be acceptable, the completed certificate must read as shown below and be signed by an individual in the contractor's organization at a level no lower than vice president or chief financial officer of the business segment that submits the proposal:

CERTIFICATE OF INDIRECT COSTS

1. I have reviewed this indirect cost proposal;
2. All costs included in this proposal       (identify proposal and date)       to establish billing of final indirect cost rates for       (identify period covered by rate)       are allowable in accordance with the requirements of contracts to which they apply and with the cost principles of the Department of Defense applicable to those contracts.
3. This proposal does not include any costs which are unallowable under applicable cost principles of the Department of Defense, such as (without limitation): advertising and public relations costs, contributions and donations, entertainment costs, fines and penalties, lobbying costs, defense of fraud proceedings, and goodwill; and
4. All costs included in this proposal are properly allocable to Defense contracts on the basis of a beneficial or causal relationship between the expenses incurred and the contracts to which they are allocated in accordance with applicable acquisition regulations.

I declare under penalty of perjury that the foregoing is true and correct.

Firm: \_\_\_\_\_

Signature: \_\_\_\_\_

Name of Corporation Official: \_\_\_\_\_

Title: \_\_\_\_\_

Date of Execution: \_\_\_\_\_

*(Topic continued on next page)*

Certification of  
Indirect Costs  
(continued)

DFARS 242.770-3

**Waiver of Certification Requirement.** The agency head may waive the indirect cost certification requirement when:

- It is determined to be in the best interest of the United States, and
- The reasons for the determination are put in writing and made available to the public.

Waivers may be appropriate for contracts with:

- Foreign governments or international organizations, such as subsidiary bodies of the North Atlantic Treaty Organization.
- State and local governments that are subject to OMB Circular A-87, Cost Principles for State and Local Governments, Revised.
- Educational institutions subject to OMB Circular A-21, Cost Principles for Educational Institutions.
- Nonprofit organizations subject to OMB Circular A-122, Cost Principles for Nonprofit Organizations.

DFARS 242.770-4

**Failure to Certify.** If the contractor has not certified its proposal for billing rates or final indirect cost rates and a waiver is not appropriate, unilaterally establish the rates if they are necessary to continue contract performance.

- Base the rates on audited historical data or other available data as long as unallowable costs are excluded.
- Set rates low enough to ensure that potentially unallowable costs will not be reimbursed.

Billing Rate  
Development

FAR 42.704(b)

If you are responsible for billing determination, establish the billing rate on the basis of information resulting from a recent review, previous audits or experience, or similar reliable data or experience of other contracting activities. It should be as close as possible to the final indirect cost rate anticipated for the contractor's fiscal period, as adjusted for any unallowable costs.

If the proposal is based on detailed data, complete a detailed analysis similar to that delineated for a forward pricing rate proposal. In fact, initial billing rates and forward pricing rates should be considered at the same time. Typically, billing rates will be slightly below forward pricing rates to allow for possible downward adjustments between the time of agreement and final rate determination.

*(Topic continued on next page)*

### 1.6.1 Establishing Billing Rates

#### Billing Rate Development

(continued)

If you determine that submission of a detailed billing rate proposal is not warranted, establish the billing rate based on your analysis of the prior year's indirect cost experience. In your analysis, adjust the rate to eliminate unallowable and non-recurring costs and to reflect new or changed conditions. In making these adjustments, consider all available data and apply appropriate quantitative techniques. Indirect cost experience from at least three accounting years and the use of regression analysis can be particularly useful in identifying non-recurring costs and making adjustments related to projected changes in production volume.

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## 1.6.2 Adjusting Billing Rates

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### Introduction

FAR 42.704(c)

Once billing rates are established, you and the contractor may prospectively or retroactively revise them. Either party may initiate a rate revision to prevent substantial overpayment or underpayment. You should consider initiating action to change billing rates whenever there is a change in final rate forecasts.

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### Reasons for Rate Changes

As you learned in Section 1.2.1, an indirect cost rate is the result of a simple calculation:

$$\frac{\text{Indirect Cost Pool}}{\text{Base}} = \text{Rate}$$

Using this equation, you can see that the rate will change if the indirect cost pool or the base change. Changes typically result from spending variances (e.g., an unexpected insurance rate increase) not related to changes in volume and volume variances (i.e. a decrease in electricity use related to a decrease in production).

**Spending Variances.** An in-depth analysis of contractor accounting data is normally needed to identify all but the largest spending variances. For example, monthly costs (the prime indicator of spending variances) may need to be seasonalized to reflect normal cost patterns (i.e. direct hours down and paid absence up during December when most people are off for the holidays). Because of the need for accounting expertise, Government auditors (as the Government's accounting experts) normally assume the lead role in identifying and analyzing spending variances.

Reasons for Rate  
Changes  
(continued)

Auditors do not act alone. The complete ramifications of the management decisions that lead to many spending variances may require a detailed analysis by a multifunctional team, led by the contracting officer. For example, a multifunctional analysis might be required to analyze a substantial change in the firm's capital expenditure budget. Each year management must develop a capital expenditure budget outlining projected spending on capital additions, improvements, and modifications in order to meet market demands. If there is a substantial change in capital improvement spending, it will first appear as a change in projected depreciation expense (an element of indirect cost). However, the impact on depreciation is only one effect of the capital budget decision. The change will affect Facilities Capital Cost of Money Factors calculated under Cost Accounting Standard 414. It may also affect worker productivity, make-or-buy decisions, or the sales/marketing direction of the firm. You will probably need input from a variety of experts to determine the overall impact of such changes on Government contracts.

**Volume Variances.** Any substantial differences between estimated rate base and actual base will result in a change in indirect cost rates, no matter how accurately costs have been predicted for the estimated volume. Because day-to-day contracting activities (e.g. contract awards, changes, or terminations) provide the data essential for identification of volume variances, your observation and analysis of volume changes are particularly important. Consider any variances from volume estimates used in developing billing rates, including changes in:

- Contracts in hand
- Options that may be exercised
- Proposals with a high probability of success (e.g., BAFOs)
- Solicitations in hand
- Sales forecasts of future customer requirements
- Projected increases or decreases in inventory

To analyze the effects of a volume change on an indirect cost rate, you should analyze the historic pool/base relationship using the techniques described in Section 1.4.

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Billing Rate  
Adjustment

FAR 42.704

When it is necessary to adjust billing rates to prevent substantial overpayment or underpayment, you should adjust contract costs using the procedure depicted in the table below.

- Step 1. Determine the costs previously reimbursed.
- Step 2. Determine the costs to date using the adjusted billing rates for the entire accounting period. If total contract costs include costs for other accounting periods, assure that you only adjust costs for the period affected by the rate adjustment.
- Step 3. Subtract the costs previously reimbursed from the costs to date. The net difference is the amount due the contractor. If the net difference is positive, reimburse the contractor accordingly. If the net difference is negative, the contractor has been over-reimbursed and you should take action in accordance with agency procedures.

ADJUSTING BILLING RATES			
Costs Previously Reimbursed		Costs To Date Using Current Billing Rates	
Direct Material Cost	\$100,000	Direct Material Cost	\$120,000
Maerial Overhead @ 86.0%	\$86,000	Maerial Overhead @ 82.0%	\$98,400
Direct Labor Cost	\$200,000	Direct Labor Cost	\$275,000
Labor Overhead @ 130.0%	\$260,000	Labor Overhead @ 132.0%	\$363,000
Subtotal	\$646,000	Subtotal	\$856,400
G&A Expense @ 14.0%	\$90,440	G&A Expense @ 12.4%	\$106,194
Total Cost	\$736,440	Total Cost	\$962,594
Subtract Costs Previously Reimbursed from Costs to Date			\$736,440
Balance Due the Contractor			\$226,154

### 1.6.3 Disallowance of Costs

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#### Introduction

FAR 42.803

To be properly invoiced to a Government contract, a cost must be allowable. As you learned in Section 1.1.3, a cost is considered allowable under a specific contract if it is: reasonable, allocable to the contract, properly accounted for under applicable accounting principles and standards, not identified as unallowable under specific cost principles, and not identified as unallowable under the terms of the contract.

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#### Notice of Intent to Disallow Costs

FAR 52.242-1  
FAR 42.801 and  
42.802

Include the clause Notice of Intent to Disallow Costs in any solicitation or contract when a cost-reimbursement contract, a fixed-price incentive contract, or a contract providing for price redetermination is contemplated. Under that clause, you, as the contracting officer responsible for contract administration, may issue a notice of intent to disallow specified costs incurred or planned for incurrence at any time during contract performance. However, before issuing the notice, you must make every reasonable effort to reach a satisfactory agreement through discussions with the contractor.

A notice of intent to disallow costs is not used to disallow invoiced costs. The notice is used to advise the contractor as early as practicable during contract performance that a specific cost or type of cost is considered unallowable under the contract terms and to provide for timely resolution of any resulting disagreement.

Normally, the process of cost review and disallowance involves seven steps. However, your objective should be to obtain satisfactory resolution without actually completing all seven steps.

Step 1. Identify unallowable cost. The unallowable cost is usually identified through routine audit or cost monitoring activities of the contract administration team.

- If the cognizant auditor identifies a cost as unallowable, assure that you understand the reason before proceeding further.
- If you identify the cost as unallowable, you should coordinate your findings with the cognizant auditor before taking further action.

Step 2. Attempt to negotiate a satisfactory settlement through discussions with the contractor. You should coordinate with the cognizant auditor throughout negotiations.

*(Topic continued on next page)*

Notice of Intent to  
Disallow Costs  
(continued)

DFARS 242.801
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Step 3. Prepare a Notice of Intent to Disallow Costs. As a minimum, the Notice must:

- Refer to the contract's Notice of Intent to Disallow Costs clause.
- State the contractor's name and list the numbers of the affected contracts.
- Describe the costs to be disallowed, including estimated dollar value by item and applicable time periods, and state the reasons for the intended disallowance.
- Describe the potential impact on billing rates and forward pricing rate agreements (FPRAs).
- State the notice's effective date and the date by which written response must be received.
- List the recipients of copies of the notice.
- Request the contractor to acknowledge receipt of the Notice.

Step 4. Prior to issuing a notice affecting elements of indirect cost, coordinate the notice with the contracting officer responsible or auditor responsible for final indirect cost settlement. In the DoD, a corporate administrative contracting officer does not need to obtain the approval of individual ACOs to disallow items of corporate expense.

Step 5. Send the Notice of Intent to Disallow Costs to the contractor and obtain acknowledgment of receipt. In addition:

- Provide copies of the Notice to all contracting officers cognizant for any segment of the contractor's organization.
- If the Notice involves invoiced costs, provide a copy to the Finance office, with instructions not to pay the costs identified as unallowable.

*(Topic continued on next page)*

Notice of Intent to  
Disallow Costs  
(continued)

- Step 6. If the contractor makes a written response within 60 days disagreeing with the notice, respond appropriately. Normally, the contracting officer that issued the notice will issue any final decision to disallow costs. However, final decisions affecting indirect costs must be issued by the contracting officer responsible for final indirect cost rate determination.
- If the contractor provides convincing evidence that the cost is allowable, withdraw the Notice in writing.
  - If the contractor fails to provide convincing evidence that the cost is allowable, issue a written decision sustaining the disallowance.
  - If the contractor provides convincing evidence that part of the cost is allowable, issue a decision sustaining that portion of cost that is not allowable.
- Step 7. Inform the finance office of your final decision. Provide a copy of any decision to withdraw a notice or a final decision to disallow invoiced costs.

Disallowance of  
Incurred Costs

FAR 42.803

Cost-reimbursement contracts, the cost-reimbursement portion of fixed-price contracts, letter contracts that provide for reimbursement of costs, time-and-material contracts, and labor-hour contracts provide for disallowing costs during the course of performance after costs have been incurred.

FAR 42.803(a)

**Contracting Officer Receipt of Vouchers.** When you receive vouchers directly from the contractor and, with or without auditor assistance, approve or disapprove them, conduct the process of disallowing costs in accordance with normal agency procedures. The following are two examples of agency procedures:

DFARS 242.803

- In the DoD, contracting officer receipt of cost vouchers is only authorized for cost-reimbursement contracts with the Canadian Commercial Corporation (CCC). CCC invoices are certified and submitted to the ACO upon approval from the Department of Supplies and Services (DSS), Canada. Invoices are approved by the DSS auditor on a provisional basis pending completion of the contract and final payment. DSS automatically arranges audits and furnishes periodic advisory audit reports directly to the ACO. After receipt of the certified invoice, the ACO processes it to the disbursing office for payment.

*(Topic continued on next page)*

Disallowance of  
Incurred Costs  
(continued)

DFARS 242.803

- In DOE, vouchers and invoices are submitted to the contracting officer of designee for review and approval. If the examination raises a question concerning allowability of cost, the contracting officer must:
  - Hold informal discussions with the contractor as appropriate.
  - Issue a notice to the contractor advising of the cost disallowed or to be disallowed and advising the contractor that it may:
    - Submit a written claim as to why the cost should be reimbursed, if it does not concur with the decision.
    - File a claim under the disputes clause, which will be processed in accordance with disputes procedures if agreement cannot be reached.
  - Process the invoice or voucher for payment and advise the finance office to deduct the disallowed cost when scheduling the voucher for payment.

FAR 42.803(b)

**Auditor Receipt of Vouchers.** When authorized by agency regulations, the cognizant auditor may be authorized to:

- Receive cost-reimbursement vouchers.
- Approve for payment those vouchers found to acceptable and forward them to the cognizant contracting, finance, or disbursing officer for payment, following agency procedures.
- Suspend payment of questionable costs.

DCAM 6-902

The following are steps in disallowing costs when auditors receive vouchers.

- Step 1. The auditor reviews the allowability of invoiced costs. In general, an item of cost which lacks adequate explanation or support for definitive audit approval or disapproval should be suspended until the required data are received and a determination can be made as to the allowability of the cost.

The auditor should keep the ACO advised of issues which have the potential to result in a Notice of Contract Costs Suspended and/or Disapproved. The ACO should provide the auditor with any additional information which would either support or modify the auditor's findings.

*(Topic continued on next page)*

Disallowance of  
Incurred Costs  
(continued)

- Step 2. The auditor may conduct informal discussions with the contractor to ensure that the auditor's conclusion is based on a proper understanding of the facts and to inform the contractor of the auditor's decision.
- If the contractor convinces the auditor that the cost is allowable, the auditor should process the voucher for payment.
  - If the auditor convinces the contractor that the cost is unallowable, the auditor will normally permit the contractor to deduct the cost from the invoice.
  - If the auditor remains convinced that the cost is unallowable, but the contractor does not agree, the auditor should proceed to Step 3.
- Step 3. If the auditor still believes that the cost is unallowable and is authorized to take this step under agency procedures, the auditor issues a Notice of Contract Costs Suspended and/or Disapproved (In DCAA, the DCAA Form 1). The notice should identify claimed costs that are not considered reimbursable.
- Step 4. The auditor distributes the Notice simultaneously to the contractor and the disbursing officer, with a copy to the contracting officer; and obtain acknowledgment of contractor receipt.
- Step 5. If the contractor disagrees with the deduction from current payments, the contractor may:
- Submit a written request for you, as the cognizant contracting officer, to consider whether the unreimbursed cost should be paid and to discuss the finding with contractor personnel.
  - File a claim under the Disputes clause.
  - Do both of the above.
- Step 6. When the contractor submits a claim under the Disputes clause of the contract, the contracting officer must issue a written decision as soon as practicable within the 60-day period required by the Disputes clause. If the contractor still disagrees, the firm may appeal to the appropriate Board of Contract Appeals or the Claims Court.
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## 1.7 FINAL INDIRECT COSTS

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### Section Overview

Contract final indirect costs are the indirect costs allocated to the contract at the time of contract closeout. Normally final contract indirect costs are established using the final indirect cost rate determined by a determination of the contracting officer or the auditor as appropriate. However, in certain situations, the contracting officer responsible for contract closeout may negotiate the settlement of indirect costs for a specific contract using quick closeout rates.

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## 1.7.1 Final Indirect Cost Rates

### Introduction

FAR 42.701

A final indirect cost rate is a rate established and agreed upon by the Government and the contractor. It is not subject to change. It is usually established after the close of the contractor's fiscal year (unless the parties decide on a different period) to which it applies. In the case of cost-reimbursement contracts with educational institutions, the rate may be predetermined (i.e., established for a future period) on the basis of cost experience with similar contracts, together with supporting data.

### Final Indirect Cost Rates

FAR 42.705

Final indirect costs must be established by either the contracting officer determination procedure or the auditor determination procedure. Select the appropriate procedure following the guidelines delineated below.

### Situations for Contracting Officer Determination

FAR 42.705-1(a)

Use the contracting officer determination procedure in the following situations:

- Business units of a multidivisional corporation under the cognizance of a corporate administrative contracting officer (CACO). The CACO will be responsible for the rate determination with assistance, as required, from the administrative contracting officers (ACOs) assigned to the individual business units. Negotiations may be conducted on a coordinated or centralized basis, depending on the degree of centralization within the contractor's organization.
- Business units not under the cognizance of a CACO, but having a resident ACO. The resident ACO will be responsible for the determination. For this purpose, a nonresident ACO is considered as resident if at least 75 percent of the ACO's time is devoted to a single contractor.
- Business units not included above, but where the predominant interest (on the basis of unliquidated contract dollar amount) is in an agency whose procedures require a contracting officer determination. In such cases, the contracting officer for making the determination will be designated following that agency's procedures.
- Educational institutions (See FAR 42.705-3).
- State and local governments (See FAR 42.705-4).
- Nonprofit organizations other than educational institutions and state and local governments (See FAR 42.705-5).

FAR 42.705-3

FAR 42.705-4

FAR 42.705-5

Procedures for  
Contracting  
Officer  
Determination

FAR 42.705-1(b)

FAR 52.216-7 or  
52.216-13

As a contracting officer determining final overhead rates for business units, follow the steps identified below. For other contractors, see the appropriate FAR sections identified above.

- Step 1. **Contractor Submittal.** In accordance with the Allowable Cost and Payment clause, the contractor shall submit to you and, if required by agency procedures, to the cognizant auditor a final indirect cost rate proposal reflecting actual cost experience during the covered period, together with supporting cost or pricing data. If you are assigned to a DoD activity, each final indirect cost proposal must include the Certification of Indirect Costs. See Section 1.6.1 for more information on Certification requirements.
- Step 2. **Audit.** The cognizant auditor shall submit to you an advisory report identifying any relevant advance agreements or restrictive terms of specific contracts and including a detailed audit prepared in accordance with FAR 15.805-5(e).
- Step 3. **Negotiation Team Formation.** You shall head a Government negotiating team which will include the cognizant auditor and technical or functional personnel as required. Invite contracting offices with significant dollar interest in the negotiations to participate in the negotiation and in the preliminary discussion of critical issues. You should also invite individuals or offices that have provided significant input to the Government position.
- Step 4. **Objective Development.** With the Government team, develop a negotiation objective for each rate involved in the negotiation. Objectives should consider the contractor's proposal and all significant Government inputs.
- Step 5. **Negotiations.** Conduct negotiations with the contractor. Request participation by team members when needed to support negotiations.
- Step 6. **Obtain Certificate of Current Cost or Pricing Data.** If required, obtain a Certificate of Current Cost or Pricing Data, in accordance with FAR 15.804-4. If you are assigned to a DoD activity, this Certification is required in addition to the Certification of Indirect Costs submitted with the proposal.

*(Topic continued on next page)*

Procedures for  
Contracting  
Officer  
Determination  
(continued)

Step 7. **Documentation.** Prepare a written indirect cost rate agreement conforming to the requirements of the contracts covered by the agreement. In addition, you should prepare and place in the file a negotiation memorandum covering the following points:

- The disposition of significant matters in the advisory audit report.
- Reconciliation of all costs questioned, with identification of items and amounts allowed or disallowed in the final settlement, as well as period costing or allocation issues.
- Reasons why any recommendations of the auditor or other Government advisors were not followed.
- Identification of cost or pricing data submitted during the negotiations and relied upon in reaching a settlement.

Step 8. **Document Distribution.** Promptly distribute the agreement and negotiation memorandum.

- Distribute the executed copies of the agreement to the contractor and each affected contracting agency.
- Distribute copies of the negotiation memorandum to the cognizant Government auditor.

Situations for  
Auditor  
Determination

FAR 42.705-2(a)

The cognizant Government auditor must establish final indirect cost rates in situations other than those identified above for contracting officer determination.

Audit determination may also be used in the situations designated for contracting officer determination when the cognizant contracting officer and auditor agree that the indirect costs can be settled with little difficulty and any of the following circumstances apply:

- The business unit has primarily fixed-price contracts, with only minor involvement in cost-reimbursement contracts.
- The administrative cost of making a contracting officer determination would exceed the expected benefits.
- The business unit does not have a history of disputes and there are few cost problems.
- The contracting officer and auditor agree that special circumstances require audit determination.

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Procedure for  
Auditor  
Determination

FAR 42.705-2(b)

Under the auditor determination procedure, the contractor will submit a final indirect cost rate proposal to both the auditor and the contracting officer, together with supporting cost or pricing data.

The auditor will:

- Audit the proposal and seek agreement with the contractor.
- Obtain a Certificate of Current Cost and Pricing Data from the contractor (if required).
- In coordination with affected contracting officers, prepare an indirect cost rate agreement conforming to the requirements of the contracts involved.
- Prepare an audit report.
- Once agreement is reached, distribute executed copies of the indirect cost rate agreement to the contractor and to each affected contracting agency. The auditor will also provide copies of the audit report to the affected contracting offices.

If the auditor cannot reach agreement with the contractor, he/she will forward the audit report to the contracting officer designated by the agency with the predominant interest in rate settlement (on the basis of unliquidated contract dollar amounts) or, where applicable, the contracting officer designated following the guidelines (described above) for contracting officer determination.

If you are designated the contracting officer, you must then attempt to reach agreement following Steps 3 - 8 of the contracting officer determination procedure.

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## 1.7.2 Quick Closeout Rates

### Introduction

Final indirect cost rates cannot be determined until after the close of the cost accounting period. In fact, it may take years to establish final indirect cost rates. To speed contract closeout, the contracting officer responsible for contract closeout may use the quick-closeout procedure to negotiate the settlement of indirect costs for a specific contract in advance of the determination of final contract cost.

### Criteria for Use

FAR 42.708

The table below delineates the criteria that you must consider in determining when and how to use the quick-closeout procedure to establish final contract indirect cost.

CRITERIA FOR USE OF QUICK CLOSEOUT PROCEDURE	
Procedure Requirements	Remarks
Contract must be physically complete.	All deliverables under the contract have been received and accepted. Only administrative closeout remains.
Unsettled indirect cost to be allocated must be insignificant.	To be considered insignificant: <ul style="list-style-type: none"><li>• Total unsettled indirect cost cannot exceed \$500,000 on any one contract, and</li><li>• Unless otherwise provided in agency procedures, cumulative unsettled indirect cost to be allocated through this procedure in any one year cannot exceed 15% of total unsettled indirect cost allocable to cost-type contracts for that fiscal year.</li></ul>
Agreement must be reached on a reasonable estimate of allocable dollars.	Both the contracting officer responsible for contract closeout and the contractor must agree to the indirect costs to be allocated to the contract.
Determination of final indirect costs under the quick closeout procedure shall be final for the contract it covers.	Use of the rates are final for covered contracts and no adjustment shall be made to other contracts for over/under recovery of costs applicable to a contract covered by the agreement.
Quick closeout rates shall not be considered a binding precedent for other contracts.	While the rates are binding for any contract covered, they are not considered a binding precedent affecting the establishment of final indirect cost rates for other contracts.

## Steps for Quick Closeout Rate Development

There is no guidance presented in the FAR as to how you should go about reaching reasonable quick closeout rates. However, the steps below present a framework that you can follow in negotiating a reasonable rate.

**Step 1. Obtain Contractor Final Rate Proposal.** While there is no FAR requirement to obtain a final rate proposal before negotiating quick closeout rates, the practical reality is that the only sound way to begin negotiations is with a contractor proposal, for several reasons:

- It is difficult to negotiate rates without knowing the contractor's position.
- The proposal summarizes the contractor's records on final indirect costs.
- Requiring the proposal for quick closeout incentivizes timely submission of a proposal that can be used for final rate negotiations.
- Rates accepted by DoD activities for billing purposes must include a Certification of Unallowable Costs from the contractor, and the Certificate is submitted with the rate proposal.

**Step 2. Develop Negotiation Objective.** Based on the contractor's proposal, develop a negotiation objective. Normally, you will develop the objective without detailed audit or technical analysis. However, you should contact the cognizant auditor to determine if the auditor is currently aware of any substantial exceptions to the contractor's proposed rates.

Assuming that no substantial exceptions are noted, you can develop your objective using any reasonable approach including the following:

- Adjust the proposed final settlement rate using a decrement factor developed from analysis of forward pricing and billing rates. It is reasonable to assume that the final audit will identify reductions similar to reductions noted in forward pricing and billing rate proposals.
- Adjust the proposed final settlement rate using a decrement factor based on prior-year reductions from proposed settlement rates. The adjustment can be based on audit-recommended reductions, negotiated reductions, or some combination of the two.

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Steps for Quick  
Closeout Rate  
Development  
(continued)

**Step 3. Negotiate a Reasonable Rate.** Remember the goal is to obtain a reasonable rate. The contractor may be willing to settle for a rate slightly lower than it might otherwise negotiate to obtain its money immediately. On the other hand, it may be advantageous to the Government to settle for a rate slightly higher than it might otherwise negotiate to reduce the administrative costs of retaining an active contract that is physically complete.

**Step 4. Sign a Bilateral Agreement.** Sign a bilateral agreement with the contractor documenting:

- The rates.
- The contracts to which the rates apply.
- That the use of the quick closeout rate is final for the contracts involved, and that differences between the quick closeout rates and final settlement rates cannot be shifted to other contracts.
- That agreement on quick closeout rates does not set a binding precedent affecting the establishment of final indirect cost rates for other contracts.

**Step 5. Distribute the Agreement.** Promptly distribute the agreement to the contractor and each contracting officer affected.

**Step 6. Prepare a Negotiation Memorandum.** Prepare a memorandum documenting data considered during negotiations and the basis for your objective and the rates negotiated.

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### 1.7.3 Applying Rates to the Contract

#### Updating the Vouchers

Once the final rates or quick closeout rates are established, the contractor should update cost vouchers on affected contracts to reflect the rates being used. Typically, the data supporting the updated voucher will identify total costs on the contract and the total previously billed. The updated voucher will then reflect the balance due or credit due. The following example illustrates what an updated voucher's backup might look like.

COSTS REIMBURSED USING INTERIM BILLING RATES		FINAL COSTS USING FINAL INDIRECT RATES	
Direct Material Cost	\$800,000	Direct Material Cost	\$800,000
Material Overhead @ 82.0%	\$656,000	Material Overhead @ 84.0%	\$672,000
Direct Labor cost	\$1,000,000	Direct Labor cost	\$1,000,000
Labor Overhead @ 132.0%	\$1,320,000	Labor Overhead @ 133.0%	\$1,330,000
Subtotal	\$3,776,000	Subtotal	\$3,802,000
G&A Expense @ 12.4%	\$468,224	G&A Expense @ 14.5%	\$551,290
Total Cost	\$4,244,224	Total Cost	\$4,353,290
		Less Costs Previously Reimbursed	\$4,244,224
		Balance Due the Contractor	\$109,066

#### Final Audit Review

FAR 42.803

Auditors should review final vouchers prior to final payment to assure that all costs are allowable and in accordance with the final indirect cost rate determination or Quick Closeout rate agreement (as appropriate).

## QUESTIONS AND PROBLEMS

1. Define indirect cost.
2. Name the two basic types of indirect cost.
3. Who makes the decision on whether a cost is direct cost or an indirect cost?
4. Identify three sources of guidance for accounting decisions.
5. What five factors must be considered in determining if a specific cost is allowable?
6. What are the potential pitfalls in comparing a company's indirect cost rate to the rate of another firm?
7. How does a primary indirect cost pool differ from a secondary pool?
8. Identify four acceptable bases for General & Administrative Expense.
9. What are the three stages of the allocation cycle?

10. Identify the four steps in estimating indirect cost.
11. Would a conservative contractor be more likely to over or under estimate sales volume? Why?
12. What type of documentation must the contractor provide in a cost proposal to support indirect rates?
13. Identify the six steps in analysis of rate projections.
14. Why evaluate risk in analysis plan development?
15. Should unallowable costs be included in indirect cost pools?
16. Should unallowable costs be included in indirect cost bases?
17. If a contractor had all fixed-price contracts and indirect costs were under-applied, how would profits be affected?

18. Would it be easier to convert base and pool dollars to constant-year dollars in summary-level rate analysis or in detailed element analysis.
19. What quantitative technique is commonly used in analyzing the relationship between the base and pool?
20. Which forward pricing rate must you use when it is available?
21. What base should you use in applying an indirect rate?
22. Are you required to use the same billing rate throughout the term of the contract?
23. What contracts require a contractor to submit a Certificate of Indirect Cost?
24. When a billing rate is adjusted, is the adjustment applied to the entire contract or just costs incurred after the adjustment?
25. What are the two types of variances that lead to changes in a contractor's billing rate?
26. Is the Notice of Intent to Disallow Costs used to disallow invoiced costs?

27. Under what circumstances will the contracting officer determine final indirect rates?
28. What happens if the auditor and the contractor cannot agree on final indirect rates?
29. Identify five requirements for use of the quick-closeout procedure.
30. What is the purpose of audit review of final payment vouchers on cost reimbursement contracts?

**SENSITIVE RATE**

Over the past three years, Direct Engineering Labor cost for two different companies has varied between \$4 million and \$5 million. The Engineering Overhead Pool cost structures for both companies are delineated in the table below.

COMPANY	FIXED COST	VARIABLE COST PER DIRECT LABOR DOLLAR
A	\$10,000	1.50
B	\$2,000,000	1.00

If the Overhead Rate Base is Direct Engineering Labor Dollars:

1. Which company's Engineering Overhead rate would be most sensitive to changes in Direct Engineering Labor Dollars between \$4 million and \$5 million?
2. Which company would have the lowest Engineering Overhead rate if Direct Engineering Labor Dollars are between \$4 million and \$5 million.

## CHARGING DEPRECIATION

Using FAR 31.205-11, FAR 31.205-52, and CAS 409, determine if the following costs are allowable:

1. Johnson Enterprises is a commercial contractor with few Government contracts. Johnson proposes a use charge for a crane that has been used by the company for 10 years and is fully depreciated. Is this an allowable cost on a Government contract? Why or why not?
2. Brunstem Motors acquired National Spark this year for the price of \$45 million. The book value of the company at the time was \$40 million. How much, if any of this amount can be depreciated and charged under Government contracts? Why or why not?
3. Morning Manufacturing is a CAS-covered contractor. They recently purchased a new \$1 million equipment item. The projected useful life is 5 years and its production is expected to be relatively constant over that period. Under CAS 409, could the contractor use an accelerated method of depreciation? Why or why not?

## **FAR AND CAS PROVISIONS ON DEPRECIATION**

### **FAR 31.205-11 Depreciation.**

(a) Depreciation is a charge to current operations which distributes the cost of a tangible capital asset, less estimated residual value, over the estimated useful life of the asset in a systematic and logical manner. It does not involve a process of valuation. Useful life refers to the prospective period of economic usefulness in a particular contractor's operations as distinguished from physical life; it is evidenced by the actual or estimated retirement and replacement practice of the contractor.

(b) Contractors having contracts subject to 48 CFR 9904.409, Depreciation of Tangible Capital Assets, must adhere to the requirement of that standard for all fully CAS-covered contracts and may elect to adopt the standard for all other contracts. All requirements of 48 CFR 9904.409 are applicable if the election is made, and its requirements supersede any conflicting requirements of this cost principle. Once electing to adopt 48 CFR 9904.409 for all contracts, contractors must continue to follow it until notification of final acceptance of all deliverable items on all open negotiated Government contracts. Paragraphs (c) through (e) below apply to contracts to which 48 CFR 9904.409 is not applied.

(c) Normal depreciation on a contractor's plant, equipment, and other capital facilities is an allowable contract cost, if the contractor is able to demonstrate that it is reasonable and allocable (but see paragraph (i) below).

(d) Depreciation shall be considered reasonable if the contractor follows policies and procedures that are-

- (1) Consistent with those followed in the same cost center for business other than Government;
- (2) Reflected in the contractor's books of accounts and financial statements; and
- (3) Both used and acceptable for Federal income tax purposes.

(e) When the depreciation reflected on a contractor's books of accounts and financial statements differs from that used and acceptable for Federal income tax purposes, reimbursement shall be based on the asset cost amortized over the estimated useful life of the property using depreciation methods (straight line, sum of the years' digits, etc.) acceptable for income tax purposes. Allowable depreciation shall not exceed the amounts used for book and statement purposes and shall be determined in a manner consistent with the depreciation policies and procedures followed in the same cost center on non-Government business.

(f) Depreciation for reimbursement purposes in the case of taxexempt organizations shall be determined on the basis described in paragraph (e) immediately above.



(g) Special considerations are required for assets acquired before the effective date of this cost principle if, on that date, the undepreciated balance of these assets resulting from depreciation policies and procedures used previously for Government contracts and subcontracts is different from the undepreciated balance on the books and financial statements. The undepreciated balance for contract cost purposes shall be depreciated over the remaining life using the methods and lives followed for book purposes. The aggregate depreciation of any asset allowable after the effective date of this 31.205-11 shall not exceed the cost basis of the asset less any depreciation allowed or allowable under prior acquisition regulations.

(h) Depreciation should usually be allocated to the contract and other work as an indirect cost. The amount of depreciation allowed in any accounting period may, consistent with the basic objectives in paragraph (a) above, vary with volume of production or use of multishift operations.

(i) In the case of emergency facilities covered by certificates of necessity, a contractor may elect to use normal depreciation without requesting a determination of “true depreciation,” or may elect to use either normal or “true depreciation” after a determination of “true depreciation” has been made by an Emergency Facilities Depreciation Board (EFDB). The method elected must be followed consistently throughout the life of the emergency facility. When an election is made to use normal depreciation, the criteria in paragraphs (c), (d), (e), and (f) above shall apply for both the emergency period and the post-emergency period. When an election is made to use “true depreciation,” the amount allowable as depreciation-

(1) With respect to the emergency period (five years), shall be computed in accordance with the determination of the EFDB and allocated rateably over the full five year emergency period; provided no other allowance is made which would duplicate the factors, such as extraordinary obsolescence, covered by the Board’s determination; and

(2) After the end of the emergency period, shall be computed by distributing the remaining undepreciated portion of the cost of the emergency facility over the balance of its useful life provided the remaining undepreciated portion of such cost shall not include any amount of unrecovered “true depreciation.”

(j) No depreciation, rental, or use charge shall be allowed on property acquired at no cost from the Government by the contractor or by any division, subsidiary, or affiliate of the contractor under common control.

(k) The depreciation on any item which meets the criteria for allowance at a “price” under 31.205-26(e) may be based on that price, provided the same policies and procedures are used for costing all business of the using division, subsidiary, or organization under common control.

(l) No depreciation or rental shall be allowed on property fully depreciated by the contractor or by any division, subsidiary, or affiliate of the contractor under common control. However, a reasonable charge for using fully depreciated property may be agreed upon and allowed (but see 31.109(h)(2)). In determining the charge, consideration shall be given to cost, total estimated useful life at the time of negotiations, effect of any increased maintenance charges or decreased efficiency due to age, and the amount of depreciation previously charged to Government contracts or subcontracts.

(m) 48 CFR 9904.404, Capitalization of Tangible Assets, applies to assets acquired by a “capital lease” as defined in Statement of Financial Accounting Standard No. 13 (FAS-13), Accounting for Leases, issued by the Financial Accounting Standards Board (FASB). Compliance with 48 CFR 9904.404 and FAS-13 requires that such leased assets (capital leases) be treated as purchased assets; i.e., be capitalized and the capitalized value of such assets be distributed over their useful lives as depreciation charges, or over the leased life as amortization charges as appropriate. Assets whose leases are classified as capital leases under FAS-13 are subject to the requirements of 31.205-11 while assets acquired under leases classified as operating leases are subject to the requirements on rental costs in 31.205-36. The standards of financial accounting and reporting prescribed by FAS-13 are incorporated into this principle and shall govern its application, except as provided in subparagraphs (1), (2), and (3) below.

(1) Rental costs under a sale and leaseback arrangement shall be allowable up to the amount that would have been allowed had the contractor retained title to the property.

(2) Capital leases, as defined in FAS-13, for all real and personal property, between any related parties are subject to the requirements of this subparagraph 31.205-11(m). If it is determined that the terms of the lease have been significantly affected by the fact that the lessee and lessor are related, depreciation charges shall not be allowed in excess of those which would have occurred if the lease contained terms consistent with those found in a lease between unrelated parties.

(3) Assets acquired under leases that the contractor must capitalize under FAS-13 shall not be treated as purchased assets for contract purposes if the leases are covered by 31.205-36(b)(4).

(n) Whether or not the contract is otherwise subject to CAS, the requirements of 31.205-52, which limit the allowability of depreciation, shall be observed.

#### **FAR 31.205-52 Asset valuations resulting from business combinations.**

When the purchase method of accounting for a business combination is used, allowable amortization, cost of money, and depreciation shall be limited to the total of the amounts that would have been allowed had the combination not taken place.

**9904.409 Cost accounting standard—depreciation of tangible capital assets.**

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**9904.409-20 Purpose.**

The purpose of this Standard is to provide criteria and guidance for assigning costs of tangible capital assets to cost accounting periods and for allocating such costs in cost objectives within such periods in an objective and consistent manner. The Standard is based on the concept that depreciation costs identified with cost accounting periods and benefiting cost objectives within periods should be a reasonable measure of the expiration of service potential of the tangible assets subject to depreciation. Adherence to this Standard should provide a systematic and rational flow of the costs of tangible capital assets to benefitted cost objectives over the expected service lives of the assets. This Standard does not cover nonwasting assets or natural resources which are subject to depletion.

**9904.409-30 Definitions.**

(a) The following are definitions of terms which are prominent in this Standard. Other terms defined elsewhere in this Chapter 99 shall have the meanings ascribed to them in those definitions unless paragraph (b) of this subsection requires otherwise.

(1) *Residual value* means the proceeds (less removal and disposal costs, if any) realized upon disposition of a tangible asset. It usually is measured by the net proceeds from the sale or other disposition of the asset, or its fair value if the asset is traded in on another asset. The estimated residual value is a current forecast of the residual value.

(2) *Service life* means the period of usefulness of a tangible asset (or group of assets) to its current owner. The period may be expressed in units of time or output. The estimated service life of a tangible capital asset (or group of assets) is a current forecast of its service life and is the period over which depreciation cost is to be assigned.

(3) *Tangible capital asset* means an asset that has physical substance, more than minimal value, and is expected to be held by an enterprise for continued use or possession beyond the current accounting period for the services it yields. The estimated service life of a tangible capital asset (or group of assets) is a current forecast of its service life and is the period over which depreciation cost is to be assigned.

(b) The following modifications of terms defined elsewhere in this Chapter 99 are applicable to this Standard: None.

**9904.409-40 Fundamental requirement.**

(a) The depreciable cost of a tangible capital asset (or group of assets) shall be assigned to cost accounting periods in accordance with the following criteria:

- (1) The depreciable cost of a tangible capital asset shall be its capitalized cost less its estimated residual value.
- (2) The estimated service life of a tangible capital asset (or group of assets) shall be used to determine the cost accounting periods to which the depreciable cost will be assigned.
- (3) The method of depreciation selected for assigning the depreciable cost of a tangible capital asset (or group of assets) to the cost accounting periods representing its estimated service life shall reflect the pattern of consumption of services over the life of the asset.
- (4) The gain or loss which is recognized upon disposition of a tangible capital asset shall be assigned to the cost accounting period in which the disposition occurs.

(b) The annual depreciation cost of a tangible capital asset (or group of assets) shall be allocated to cost objectives for which it provides service in accordance with the following criteria:

- (1) Depreciation cost may be charged directly to cost objectives only if such changes are made on the basis of usage and only if depreciation costs of all like assets used for similar purposes are charged in the same manner.
- (2) Where tangible capital assets are part of, or function as, an organizational unit whose costs are charged to other cost objectives based on measurement of the services provided by the organizational unit, the depreciation cost of such assets shall be included as part of the cost of the organizational unit.
- (3) Depreciation costs which are not allocated in accordance with subparagraph (b)(1) or (2) of this subsection, shall be included in appropriate indirect cost pools.
- (4) The gain or loss which is recognized upon disposition of a tangible capital asset, where material in amount, shall be allocated in the same manner as the depreciation cost of the asset has been or would have been allocated for the cost accounting period in which the disposition occurs. Where such gain or loss is not material, the amount may be included in an appropriate indirect cost pool.

**9904.409-50 Techniques for application.**

(a) Determination of the appropriate depreciation charges involves estimates both of service life and of the likely pattern of consumption of services in the cost accounting periods included in such life. In selecting service life estimates and in selecting depreciation methods, many of the same physical and economic factors should be considered. The following are among the factors which may be taken into account: quantity and quality of expected output, and the timing thereof; costs of repair and maintenance, and the timing thereof; standby or incidental use and the timing thereof; and technical or economic obsolescence of the asset (or group of assets), or of the product or service it is involved in producing.

(b) Depreciation of a tangible capital asset shall begin when the asset and any others on which its effective use depends are ready for use in a normal or acceptable fashion. However, where partial utilization of a tangible capital asset is identified with a specific operation, depreciation shall commence on any portion of the asset which is substantially completed and used for that operation. Depreciable spare parts which are required for the operation of such tangible capital shall be accounted for over the service life of the assets.

(c) A consistent policy shall be followed in determining the depreciable cost to be assigned to the beginning and ending cost accounting periods of asset use. The policy may provide for any reasonable starting and ending dates in computing the first and last year depreciable cost.

(d) Tangible capital assets may be accounted for by treating each individual asset as an accounting unit, or by combining two or more assets as a single accounting unit, provided such treatment is consistently applied over the service life of the asset or group of assets.

(e) Estimated service lives initially established for tangible capital assets (or groups of assets) shall be reasonable approximations of their expected actual periods of usefulness, considering the factors mentioned in paragraph (a) of this subsection. The estimate of the expected actual periods of usefulness need not include the additional period tangible capital assets are retained for standby or incidental use where adequate records are maintained which reflect the withdrawal from active use.

(1) The expected actual periods of usefulness shall be those periods which are supported by records of either past retirement or, where available, withdrawal from active use (and retention for standby or incidental use) for like assets (or groups of assets) used in similar circumstances appropriately modified for specifically identified factors expected to influence future lives. The factors which can be used to modify past experience include:

(i) Changes in expected physical usefulness from that which has been experienced such as changes in the quantity and quality of expected output.

(ii) Changes in expected economic usefulness, such as changes in expected technical or economic obsolescence of the asset (or group of assets), or of the product or service produced.

(2) Supporting records shall be maintained which are adequate to show the age at retirement or, if the contractors so chooses, at withdrawal from active use (and retention for standby or incidental use) for a sample of assets for each significant category. Whether assets are accounted for individually or by groups, the basis for estimating service life shall be predicated on supporting records of experienced lives for either individual assets or any reasonable grouping of assets as long as that basis is consistently used. The burden shall be on the contractor to justify estimated service lives which are shorter than such experienced lives.

(3) The records required in subparagraphs (e)(1) and (2) of this subsection, if not available on the date when the requirements of this Standard must first be followed by a contractor, shall be developed from current and historical fixed asset records and be available following the second fiscal year after that date. They shall be used as a basis for estimates of service lives of tangible capital assets acquired thereafter. Estimated service lives used for financial accounting purposes (or other accounting purposes where depreciation is not recorded for financial accounting purposes for some non-commercial organizations), if not

unreasonable under the criteria specified in paragraph (e) of this subsection, shall be used until adequate supporting records are available.

(4) Estimated service lives for tangible capital assets for which the contractor has no available data or no prior experience for similar assets shall be established based on a projection of the expected actual period of usefulness, but shall not be less than asset guideline periods (mid-range) established for asset guideline classes under the Revenue Procedure 72-10 published by the Internal Revenue Service, and any additions, supplements or revisions thereto, which are in effect as of the first day of the cost accounting period in which the assets are acquired. Use of this alternative procedure shall cease as soon as the contractor is able to develop estimates which are appropriately supported by his own experience.

(5) The contracting parties may agree on the estimated service life of individual tangible capital where the unique purpose for which the equipment was acquired or other special circumstances warrant a shorter estimated service life than the life determined in accordance with the other provisions of this 9904.409-50(e) and where the shorter life can be reasonably predicted.

(f)(1) The method of depreciation used for financial accounting purposes (or other accounting purposes where depreciation is not recorded for financial accounting purposes) shall be used for contract costing unless (i) such method does not reasonably reflect the expected consumption of services for the tangible capital asset (or group of assets) to which applied, or (ii) the method is unacceptable for Federal income tax purposes. If the contractor's method of depreciation used for financial accounting purposes (or other accounting purposes as provided above) does not reasonably reflect the expected consumption of services or is unacceptable for Federal income tax purposes, he shall establish a method of depreciation for contract costing which meets these criteria, in accordance with subparagraph (f)(3) of this subsection.

(2) After the date of initial applicability of this Standard, selection of methods of depreciation for newly acquired tangible capital assets, which are different from the methods currently being used for like assets in similar circumstances, shall be supported by projections of the expected consumption of services of those assets (or groups of assets) to which the different methods of depreciation shall apply. Support in accordance with subparagraph (f)(3) of this subsection shall be based on the expected consumption of services of either individual assets or any reasonable grouping of assets as long as the basis selected for grouping assets is consistently used.

(3) The expected consumption of asset services over the estimated service life of a tangible capital asset (or group of assets) is influenced by the factors mentioned in paragraph (a) of this subsection which affect either potential activity or potential output of the asset (or group of assets). These factors may be measured by the expected activity or the expected physical output of the assets, as for example: hours of operation, number of operations performed, number of units produced, or number of miles traveled. An acceptable surrogate for expected activity or output might be a monetary measure of that activity or output generated by use of tangible capital assets, such as estimated labor dollars, total cost incurred or total revenues, to the extent that such monetary measures can reasonably be related to the usage of specific tangible capital assets (or groups of assets). In the absence of reliable data for the measurement or estimation of the consumption of asset services by the techniques

mentioned, the expected consumption of services may be represented by the passage of time. The appropriate method of depreciation should be selected as follows:

(i) An accelerated method of depreciation is appropriate where the expected consumption of asset services is significantly greater in early years of asset life.

(ii) The straight-line method of depreciation is appropriate where the expected consumption of asset services is reasonably level over the service life of the asset (or group of assets).

(g) The estimated service life and method of depreciation to be used for an original complement of low-cost equipment shall be based on the expected consumption of services over the expected useful life of the complement as a whole and shall not be based on the individual items which form the complement.

(h) Estimated residual values shall be determined for all tangible capital assets (or groups of assets). For tangible personal property, only estimated residual values which exceed ten percent of the capitalized cost of the asset (or group of assets) need be used in establishing depreciable costs. Where either the declining balance method of depreciation or the class life asset depreciation range system is used consistent with the provisions of this Standard, the residual value need not be deducted from capitalized cost to determine depreciable costs. No depreciation cost shall be charged which would significantly reduce book value of a tangible capital asset (or group of assets) below its residual value.

(i) Estimates of service life, consumption of services, and residual value shall be reexamined for tangible capital assets (or groups of assets) whenever circumstances change significantly. Where changes are made to the estimated service life, residual value, or method of depreciation during the life of a tangible capital asset, the remaining depreciable costs for cost accounting purposes shall be limited to the undepreciated cost of the assets and shall be assigned only to the cost accounting period in which the change is made and to subsequent periods.

(j)(1) Gains and losses on disposition of tangible capital assets shall be considered as adjustments of depreciation costs previously recognized and shall be assigned to the cost accounting period in which disposition occurs except as provided in subparagraphs (j)(2) and (3) of this subsection. The gain or loss for each asset disposed of is the difference between the net amount realized, including insurance proceeds in the event of involuntary conversion, and its undepreciated balance. However the gain to be recognized for contract costing purposes shall be limited to the difference between the original acquisition cost of the asset and its undepreciated balance.

(2) Gains and losses on the disposition of tangible capital assets shall not be recognized where: (i) assets are grouped and such gains and losses are processed through the accumulated depreciation account, or, (ii) the asset is given in exchange as part of the purchase price of a similar asset and the gain or loss is included in computing the depreciable cost of the new asset. Where the disposition results from an involuntary conversion and the asset is replaced by a similar asset, gains and losses may either be recognized in the period of disposition or used to adjust the depreciable cost base of the new asset.

(3) The contracting parties may account for gains and losses arising from mass or extraordinary dispositions in a manner which will result in treatment equitable to all parties.

(4) Gains and losses on disposition of tangible capital assets transferred in other than an as-length transaction and subsequently disposed of within 12 months from the date of transfer shall be assigned to the transferor.

(k) Where, in accordance with 9904.409-40(b)(1), the depreciation costs of like tangible capital assets used for similar purposes are directly charged to cost objectives on the basis of usage, average charging rates based on cost shall be established for the use of such assets. Any variances between total depreciation cost charged to cost objectives and total depreciation cost for the cost accounting period shall be accounted for in accordance with the contractor's established practice for handling such variances.

(l) Practices for determining depreciation methods, estimated service lives and estimated residual values need not be changed for assets acquired prior to compliance with this Standard if otherwise acceptable under applicable procurement regulations. However, if changes are effected such changes must conform to the criteria established in this Standard and may be effected on a prospective basis to cover the undepreciated balance of cost by agreement between the contracting parties pursuant to negotiation under subdivision (a)(4)(ii) or (iii) of the contract clause set out at 9903.201-4.



## CLEAN OPERATIONS

Determine the allowability of the environmental costs identified below. In your analysis, consider provisions of the Defense Contract Audit Manual (DCAM) 7-1920 on the pages following this case.

1. The Swan Corporation sold its Beaver Run Plant five years ago. The Duck Division, formerly located at the Beaver Run Plant, was moved to a new facility in a different city. Six months ago, the new owners of the Beaver Run Plant identified soil contamination at the Plant that was traced to an accidental chemical spill during Duck production 10 years ago.
  - a. If all Duck Division sales are to the Government, how much, if any, of the cleanup cost should be allocated to Duck Division contracts?
  - b. How much, if any, of the cleanup cost should be allocated to other divisions of the Swan Corporation?
2. Martin Systems has invested \$200,000 in new equipment to prevent ground water pollution from plant operations. Assuming that this cost is otherwise allowable, should it be allocated as a period cost or should it be capitalized? Why or why not?
3. Recently, Modern Manufacturing identified soil pollution at its production facility. Cleanup cost was \$540,000. It appears that the near-by facility of Valley Operations is responsible for the pollution, because they are the only firm in the area that uses the chemicals involved. Despite the evidence, Valley refuses to accept any responsibility for the cleanup. Assuming the cleanup cost is reasonable, can it be allocated to Government contracts? Why or why not?

4. Ajax Manufacturing purchased a 40-year old manufacturing facility from the Old-Line Corporation. As the facility was being renovated for Ajax production, engineers uncovered numerous barrels of toxic waste buried in the rear of the facility. Old-Line has accepted full responsibility for the \$1.8 million cleanup, but will require several years to fully reimburse Ajax. Assuming that this cost is reasonable, can Ajax allocate the cost to its Government contracts? Why or why not?
  
5. The Perry Corporation knowingly dumped toxic waste at its manufacturing facility in violation of current laws. The State Environmental Board learned of the dumping and ordered a cleanup. Assuming that the cleanup cost is reasonable, can it be allocated to Government contracts? Why or why not?

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## DCAM 7-1920 ENVIRONMENTAL COSTS

### 7-1920.1 Summary

Environmental costs are normal costs of doing business and are generally allowable costs if reasonable and allocable. Some environmental costs must be capitalized when the incurrence of such costs improves the property beyond its acquisition condition or under certain circumstances when the costs are part of the preparation of the property for sale. If environmental clean-up efforts resulted from contamination caused by contractor wrongdoing, the clean-up costs are not allowable. Environmental costs may be subject to future recoveries from insurance companies and other sources, which may not be reasonably predictable at the time the environmental clean-up costs are paid. Some of the sources of recovery may be unknown when the contractor pays for environmental clean-up costs. As such, clean-up costs claimed or forecasted are usually not reflective of the contractor's ultimate liability for the costs. Therefore, the forecasted costs should be treated as contingent costs subject to FAR 31.205-7, Contingencies. Also, any otherwise allowable incurred environmental clean-up costs should be accepted contingent upon the government sharing in any future recoveries from insurance policies or other sources. Advance agreements should be recommended to protect the government's interests in any future recoveries of clean-up costs reimbursed by the government.

### 7-1920.2 Types of Environmental Costs

Environmental costs include costs to prevent environmental contamination, costs to clean up prior contamination, and costs directly associated with the first two categories including legal costs. Costs associated with fault-based liabilities to third parties are not environmental costs (see 7- 1920.12).

### 7-1920.3 Cost Principles Applicable to Environmental Costs

The costs incurred to clean up environmental contamination are considered to be normal business expenses. The primary cost principles applicable to environmental costs are FAR Subsections: 31.201-2 Allowability; 31.201-3, Reasonableness and 31.201-4, Allocability. Other cost principles applicable in specific circumstances include FAR Subsections: 31.2015, Credits; 31.205-3, Bad Debts- 31.205-7 Contingencies- 31.205-15, Fines, Penalties, and Mischarging Costs; and 31.205-47, Costs Related to Legal and Other Proceedings.

### 7-1920.4 Normal Business Expense

Normal business expenses are those expenses that an ordinary, reasonable, prudent businessperson would incur in the course of conducting a competitive for-profit enterprise. In the context of environmental costs, normal business expenses are measured by the actual costs incurred in the period. Not all normal business expenses are allowable for government contract costing purposes. To be allowable, costs must also be reasonable in amount, allocable to government contracts, and not be specifically unallowable under government cost principle provisions.

### **7-1920.5 Reasonableness of Environmental Costs**

a. The key concept for reasonableness of environmental costs (both preventive and remedial) is that the methods employed and the magnitude of the costs incurred must be consistent with the actions expected of an ordinary, reasonable, prudent businessperson performing non-government contracts in a competitive marketplace. A government contractor should take measures to prevent or reduce contamination which a prudent businessperson would pursue to reduce its environmental costs.

b. Determination of reasonableness of clean-up costs also requires an examination of the circumstances of the contaminating events. Contractors should not be reimbursed for increased costs incurred in the clean-up of contamination which they should have avoided. In order to be allowable, contamination must have occurred despite due care to avoid the contamination, and despite the contractor's compliance with the law. Increased costs due to contractor delay in taking action after discovery of the contamination are not allowable. For forward pricing purposes, the costs should be net of reasonably available recoveries from insurance which would offset the clean-up costs.

### **7-1920.6 Allocability of Environmental Costs**

Costs incurred to prevent environment contamination will generally be allocated as an indirect expense using a causal or beneficial base. Costs to clean up environmental contamination caused in prior years will generally be period costs allocated through a company's G&A expense pool. Clean-up costs incurred at a home office, group-office, or other corporate-office level should be allocated to the segment(s) associated with the contamination for inclusion as part of the segment's G&A cost. Clean-up costs incurred by a segment should be allocated through its G&A expense pool if no other segments were associated with the contamination. If other segments participated in the contamination, a fair share of the clean-up costs should be allocated to the other segments for inclusion in their G&A expense pool. This is in accordance with CAS 403 and 410 for CAS-covered contractors.

### **7-1920.7 Environmental Costs Related to Previous Sites and Closed Segments**

a. If costs arise from a site the contractor segment previously occupied, the costs for clean-up would usually be allocated to the segment's site where the work was transferred. However, if the segment is closed with none of its former work remaining within the company, the cost would generally not be directly allocable to other segments of the business. There are many possible variations for the cost accounting treatment of environmental costs for a closed segment, depending on the facts of the particular situation. Information auditors should consider includes:

- (1) Are any aspects of the closed segment's business being continued by the remaining segments?
- (2) Is the site still owned by the contractor? If it is, what is its current use?
- (3) If the site is not currently owned by the contractor, what were the terms of the sale in relation to environmental costs? The contractor may have retained environmental clean-up liability in exchange for a higher sale price or the buyer may have accepted full liability in exchange for a lower purchase price.

b. Each closed segment case must be reviewed based on its own facts to determine if the costs incurred for the closed segment should be directly allocated to other segments, be allocated as residual home office costs, or be treated as an adjustment of costs associated with the closing of the segment.

### **7-1920.8 Capitalization of Environmental Costs**

a. Generally Accepted Accounting Principles as expressed in the Emerging Issues Task Force (EITF) Issue No. 90-8 indicate that environmental costs would normally be expensed in the period incurred unless the costs constitute a betterment or an improvement, or were for fixing up property held for sale. Betterments and improvements which exceed the contractor's capitalization threshold must be capitalized. Costs of fixing up a property for sale are generally considered to be part of the sales transaction, if realizable from the sale.

b. It would be unreasonable for the government to accept as current period costs expenditures which increase the value of contractor assets; accordingly, these costs should be capitalized for government contract costing purposes.

c. The EITF discusses the following situations where capitalization of the expenditures may be appropriate:

- (1) Cost incurred to clean-up a site. These costs should be capitalized if the clean-up effort improves the property beyond the original condition of the property at acquisition. The costs incurred to restore a property to its acquisition condition are generally expensed unless they extend the property's useful life.
- (2) Costs incurred to fix up property held for sale. These costs are to be capitalized, if they are realizable from the sale. A contractor may be required to incur contamination clean-up costs far in excess of any amount reasonably realizable upon sale. In the case of costs in excess of realizable costs, the excess amounts are expensed or capitalized depending on whether they improved the property beyond the property's condition at acquisition.
- (3) Costs incurred to prevent future contamination. These costs would have an economic value in more than one period and should be amortized over their useful life. Capital assets purchased or constructed to prevent future contamination must be capitalized consistent with CAS 404 and GAAP.

d. Examples of capitalization of environmental costs:

- (1) A contractor acquires property which was contaminated by a previous owner. Clean-up costs are capitalized as an improvement. Costs of ground and water clean-ups are increases to the book value of the land.
- (2) A contractor cleans up contamination from its own operations since acquiring the property. If the property is being held for continuing use, the costs are expensed as period costs.
- (3) A contractor incurs \$80 million to clean up contamination it caused at a site which has a book value of \$100 million and which is being held for sale at a price of \$500 million. The \$80 million is realizable from the sale and therefore, should be capitalized. If the sales price were \$100 million instead, none of the \$80 million would be realizable and it should be expensed in the period.

(4) The clean-up in example (3) is related to contamination existing at acquisition. In this situation, the \$80 million would be capitalized even for the sale at a price of \$100 million and would produce an \$80 million loss on the sale. In effect, this would recognize that the contractor overpaid for the land at the time of acquisition.

#### **7-1920.9 Potentially Responsible Party (PRP) for Environmental Clean-Up**

a. The environmental laws usually require each Potentially Responsible Party (PRP) for contamination at a site to be individually liable for the complete cleanup of the site. The allowable environmental cost should only include the contractor's share of the clean-up costs based on the actual percentage of the contamination attributable to the contractor.

b. Contractors with the ability to pay will be required to fund clean-up efforts for sites where they are named as PRPs. If the government accepted contractor costs on an ability to make payment basis, a government contractor could end up billing a disproportionate share of a site's clean-up costs to government contracts instead of recovering the excess payments from other PRPs.

#### **7-1920.10 Environmental Bad Debts of Other PRPs**

a. When a contractor pays for more than its share of the site clean-up, the contractor receives a right of contribution (or subrogation) against the other PRPs who did not make an appropriate contribution to the clean-up effort. If a contractor pays out more than its share of clean-up costs, it is up to that contractor to exercise its contribution rights to collect the amount over its share from the other PRPs who did not pay their share.

b. If a contractor cannot collect contribution or subrogation claims from other PRPs, the uncollected amounts are, in their essential nature, bad debts. Bad debts and associated collection costs, including legal fees, are unallowable costs (FAR 31.205-3 and 31.204(c)).

#### **7-1920.11 Insurance Recovery for Environmental Costs**

a. The insurance industry does not currently consider environmental contamination an insurable risk (at a reasonable cost) in most circumstances. The major exception is a sudden accidental contamination, such as an oil tanker spill resulting from a collision. If such insurance is available and reasonably priced, its cost would be allowable.

b. Some courts have found that policies written before the insurance industry began to specifically exclude environmental coverage do afford coverage for environmental damages. Any insurance recoveries for a contamination clean-up will be applied as credits against any costs which were or would be otherwise allowable for that clean-up effort.

c. Many environmental contamination events now generating costs were insured either under specific environmental impairment or comprehensive general liability coverages, before the insurance industry developed its current underwriting exclusions. It is the earlier insurance policies which are the source of the potential claims. Most insurance companies are contesting the claims and when payments are made, they are based on partial settlements or are made after lengthy legal battles. When a claim is possible and economically feasible, the contractor should pursue it.

d. The auditor should inquire about the existence of environment contamination policies and comprehensive general liability policies which do not contain environmental clean-up cost exclusions. The kind and amount of policies in effect from the time of the contamination to the current date are significant for the purposes of negotiating costs and prices for government contracts.

e. The contractor's support for proposed clean-up costs should include a description of any insurance claim the contractor may have which could reduce the ultimate liability. The amount and timing of these claims for contract costing is a potential subject for negotiation which should be addressed by the auditor and ACO (see 7-1920.15b).

#### **7-1920.12 Fault-Based Liabilities to Third Parties**

a. Examples of liabilities to third parties include health impairment, property damage, or property devaluation for residents or property owners near a contaminated site. These third-party claims arise from legal theories of tort and trespass, and losses from such claims would be unreasonable in nature for payment on a government contract. Such costs are not environmental costs.

b. In the absence of a specific court finding of tort or trespass by the contractor the facts of each case should be carefully examined to determine if any contractor payments are nonetheless based on those or other fault-based legal theories.

#### **7-1920.13 Environmental Wrongdoing**

a. If environmental clean-up costs are the result of contractor violation of laws regulations, orders or permits, or disregard of warnings for potential contamination, the clean-up costs including any associated costs, such as legal costs, would be unreasonable and thus unallowable.

b. Fines or penalties are expressly unallowable under FAR 31.205-15 and any costs of legal proceedings where a fine or penalty could be imposed are covered by FAR 31.205-47. However, the incurrence of clean-up costs to correct environmental contamination is not a penalty; it is a legal obligation.

c. Most environmental laws do not require the contractor to be guilty of a violation to enforce contractor payment for clean-up costs. Therefore, it is rare for government agencies to bring criminal, or even administrative, charges for contamination. Auditors should request the contractors to provide documents sufficient to allow a determination as to how the contamination occurred. The Environmental Protection Agency, in designating a company as a Potentially Responsible Party (PRP), will normally provide a written rationale as to how the company contributed to the contamination at a site.

d. For purposes of disallowing the costs, the government must show that the preponderance of the evidence supports the position that the contractor violated the law, regulation, order or permit, or the contractor disregarded warnings for potential contamination. That is, it must be more likely that the government's allegation of wrongdoing is correct than that it is not.

e. The contractor should not be denied recovery of clean-up costs, if it complied with the laws, regulations, and permits in effect at the time of the contamination.

#### **7-1920.14 Contingent Nature of Environmental Costs**

a. Ideally, the government wants to negotiate contract prices based on the net environmental costs after recovery of insurance claims and any amounts owed by later-discovered PRPs. At the time that environmental costs are being incurred, it may not be possible to reasonably estimate what the net costs will ultimately be. Even where it is settled that a contractor will be required to clean up a prior contamination, it is rare that projections of the costs necessary to complete the project can be made with a reasonable degree of certainty.

b. Because of the uncertainty of the cost projections and of future recoveries from the insurance companies, as well as the difficulty in identifying all the other PRPs, both forecasted and incurred environmental clean-up costs and related legal costs that are allowable should be accepted contingent upon the government participating in any insurance recoveries or the identification of other PRPs at a later date. See 7-1920.15.

#### **7-1920.15 Advance Agreements for Environmental Costs**

a. There are many areas of judgment involved in the determination of allowability for environmental costs. It is necessary for the auditor and the ACO to coordinate closely during the review. Advance agreements should be considered to facilitate negotiations with the contractor.

b. Acceptance of the costs may require some form of agreement to protect the government's interest. Any agreement to accept costs for clean-ups or for the costs of pursuing insurance recoveries should also provide expressly for government participation in any insurance claim recoveries and any reductions resulting from later-discovered PRPs. Consideration should also be given to requiring contractor diligence in pursuing insurance recoveries and identifying contamination attributable to other PRPs. Advance agreements should provide for recovery of expenses priced into fixed price contracts if those expenses are later reduced based on subsequent identification of additional PRPs or insurance coverage after the agreement on price.

#### **7-1920.16 Environmental Clean-Up Trust Funds**

a. Making payments for clean-up efforts through a trust fund is a device for the administrative and the financing convenience of the PRPs named at a given site. The allowability of costs on government contracts should be based on the contractor's allocable share of the actual clean-up obligations. Contractor payments into a fund before clean-up costs are incurred are not an expense to the contractor until actual costs have been incurred for the site clean-up work. The excess or early payments are prepaid expenses.

b. It is the contractor's responsibility to support its claimed costs as allowable contract costs. Before accepting the contributions made to a trust fund as contract costs, auditors should obtain and evaluate sufficient supporting data to determine the allowability and the actual payment of the claimed costs. When the claimed "trust fund" costs are significant, the contractor should be requested, as part of its cost support, to arrange for government audit access to the accounting records of the trust fund.



### **MORESEARCH**

To answer the questions below, refer to FAR 31.205-18, Independent Research and Development and Bid and Proposal Costs.

1. Which companies are required to negotiate an agreement to establish a ceiling on IR&D/B&P costs?
2. If a company is not required to negotiate an advance agreement, are IR&D/B&P costs allowable?
3. A major contractor had \$10,000,000 in IR&D/B&P in 1994. What is the maximum IR&D/B&P that can be allowed for 1995 if there is no inflation?
4. If a major contractor had \$10,000,000 in IR&D/B&P in 1995, what is the maximum IR&D/B&P that could be allowed for 1996 if there is no inflation?

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**FAR 31.205-18**  
**INDEPENDENT RESEARCH AND DEVELOPMENT AND BID AND PROPOSAL**  
**COSTS**

(a) Definitions. "Applied research," as used in this subsection, means that effort which (1) normally follows basic research, but may not be severable from the related basic research, (2) attempts to determine and exploit the potential of scientific discoveries or improvements in technology, materials, processes, methods, devices, or techniques, and (3) attempts to advance the state of the art. Applied research does not include efforts whose principal aim is design, development, or test of specific items or services to be considered for sale; these efforts are within the definition of the term "development," defined in this subsection.

"Basic research," as used in this subsection, means that research which is directed toward increase of knowledge in science. The primary aim of basic research is a fuller knowledge or understanding of the subject under study, rather than any practical application thereof.

"Bid and proposal (B&P) costs," as used in this subsection, means the costs incurred in preparing, submitting, and supporting bids and proposals (whether or not solicited) on potential Government or non-Government contracts. The term does not include the costs of effort sponsored by a grant or cooperative agreement, or required in the performance of a contract.

"Company," as used in this subsection, means all divisions, subsidiaries, and affiliates of the contractor under common control.

"Contractor," as used in paragraph (c)(2) of this subsection, includes all divisions, subsidiaries, and affiliates under common control.

"Covered contract," as used in paragraph (c)(2) of this subsection, means a prime contract entered into by a Government agency for an amount more than \$100,000, except for a fixed-price contract without cost incentives. It also includes a subcontract for an amount more than \$100,000, except for a fixed-price subcontract without cost incentives under such a prime contract.

"Covered segment," as used in paragraph (c)(2) of this subsection, means a product division of the contractor that allocated more than \$1,000,000 in IR&D/B&P costs to covered contracts during the preceding fiscal year. In the case of a contractor that has no product divisions, such term means that contractor as a whole. A product division of the contractor that allocated less than \$1,000,000 in IR&D/B&P costs to covered contracts during the preceding fiscal year shall not be subject to the limitations for major contractors set forth in 31.205-18(c)(2) (i) and (ii).

"Development," as used in this subsection, means the systematic use, under whatever name, of scientific and technical knowledge in the design, development, test, or evaluation of a potential new product or service (or of an improvement in an existing product or service) for the purpose of meeting specific performance requirements or objectives. Development includes the functions of design engineering, prototyping, and engineering testing. Development excludes: (1) subcontracted technical effort which is for the sole purpose of developing an additional source for an existing product, or (2) development effort for manufacturing or production materials, systems, processes, methods, equipment, tools, and techniques not intended for sale.

"Independent research and development (IR&D)," as used in this subsection, means a contractor's IR&D cost that consists of projects falling within the four following areas: (1) basic research, (2) applied research, (3) development, and (4) systems and other concept

formulation studies. The term does not include the costs of effort sponsored by a grant or required in the performance of a contract. IR&D effort shall not include technical effort expended in developing and preparing technical data specifically to support submitting a bid or proposal.

"Major contractor," as used in paragraph (c)(2) of this subsection, means any contractor whose covered segments allocated to covered contracts a total of more than \$10,000,000 in IR&D/B&P costs in the preceding fiscal year. For purposes of calculating the dollar threshold amounts to determine whether a contractor meets the definition of "major contractor," contractor segments allocating less than \$1,000,000 of IR&D/B&P costs to covered contracts in the preceding year shall not be included.

"Systems and other concept formulation studies," as used in this subsection, means analyses and study efforts either related to specific IR&D efforts or directed toward identifying desirable new systems, equipment or components, or modifications and improvements to existing systems, equipment, or components.

(b) Composition and allocation of costs. The requirements of 48 CFR 9904.420, Accounting for independent research and development costs and bid and proposal costs, are incorporated in their entirety and shall apply as follows

(1) Fully-CAS-covered contracts. Contracts that are fully CAS covered shall be subject to all requirements of 48 CFR 9904.420.

(2) Modified CAS-covered and non-CAS-covered contracts. Contracts that are not CAS-covered or that contain terms or conditions requiring modified CAS coverage shall be subject to all requirements of 48 CFR 9904.420 except 48 CFR 9904.420-50(e)(2) and 48 CFR 9904.420-50(f)(2), which are not then applicable. However, non-CAS-covered or modified CAS-covered contracts awarded at a time the contractor has CAS-covered contracts requiring compliance with 48 CFR 9904.420, shall be subject to all the requirements of 48 CFR 9904.420. When the requirements of 48 CFR 9904.420-50(e)(2) and 48 CFR 9904.420-50(f)(2) are not applicable, the following apply:

(i) IR&D and B&P costs shall be allocated to final cost objectives on the same basis of allocation used for the G&A expense grouping of the profit center (see 31.001) in which the costs are incurred. However, when IR&D and B&P costs clearly benefit other profit centers or benefit the entire company, those costs shall be allocated through the G&A of the other profit centers or through the corporate G&A, as appropriate.

(ii) If allocations of IR&D or B&P through the G&A base do not provide equitable cost allocation, the contracting officer may approve use of a different base.

(c) Allowability. (1) This subparagraph (c)(1) implements section 824 of the National Defense Authorization Act for Fiscal Year 1991 (Pub. L. 101-510). Except as provided in paragraphs (c)(2), (d), and (e) of this subsection, or as provided in agency regulations, costs for IR&D and B&P are allowable only in accordance with the following:

(i) Companies required to negotiate advance agreements. (A) Any company that received payments for IR&D and B&P costs in a fiscal year, either as a prime contractor or subcontractor, exceeding \$7,000,000 from Government agencies, is required to negotiate with the Government an advance agreement which establishes a ceiling for allowability of IR&D and B&P costs for the following fiscal year. This agreement is binding on all Government agencies, unless prohibited by statute. The requirements of section 203 of Public Law 91-441 necessitate that the Department of

Defense (DOD) be the lead negotiating agency when the contractor has received more than \$7,000,000 in payments for IR&D and B&P from DOD. Computation of IR&D and B&P costs to determine whether the threshold criterion was reached shall include only recoverable IR&D and B&P costs allocated during the company's previous fiscal year to prime contracts and subcontracts for which the submission and certification of cost or pricing data were required. (See also paragraph (b) of this subsection and 15.804.) The computation shall include full burdening pursuant to 48 CFR 9904.420.

(B) When a company meets the criterion in (c)(1)(i)(A) of this subsection, required advance agreements may be negotiated at the corporate level and/or with those profit centers that contract directly with the Government and that in the preceding year allocated recoverable IR&D and B&P costs exceeding \$700,000, including burdening, to contracts and subcontracts for which the submission and certification of cost or pricing data were required (see also paragraph (b) of this subsection and 15.804). When ceilings are negotiated for separate profit centers of the company, the allowability of IR&D and B&P costs for any center that in its previous fiscal year did not reach the \$700,000 threshold may be determined in accordance with paragraph (c)(1)(ii) of this subsection.

(C) Ceilings are the maximum dollar amounts of total IR&D and B&P costs that will be allowable for allocation over the appropriate base for that part of the company's operation covered by an advance agreement.

(D) No IR&D and B&P cost shall be allowable if a company fails to initiate negotiation of a required advance agreement before the end of the fiscal year for which the agreement is required.

(E) When negotiations are held with a company meeting the \$7,000,000 criterion or with separate profit centers (when negotiations are held at that level under (c)(1)(i)(B) of this subsection), and if no advance agreement is reached, payment for IR&D and B&P costs shall be reduced below that which the company or profit center would have otherwise received. The amount of such reduced payment shall not exceed 75 percent of the amount which, in the opinion of the contracting officer, the company or profit center would be entitled to receive under an advance agreement. Written notification of the contracting officer's determination of a reduced amount shall be provided the contractor. In the event that an advance agreement is not reached before the end of the contractor's fiscal year for which the agreement is to apply, negotiations shall immediately be terminated, and the contracting officer shall furnish a determination of the reduced amount.

(F) Contractors may appeal decisions of the contracting officer to reduce payment. The appeal shall be filed with the contracting officer within 30 days of receipt of the contracting officer's determination. (See also Subpart 42.10.)

(ii) Companies not required to negotiate advance agreements. Costs for IR&D and B&P are allowable as indirect expenses on contracts to the extent that those costs are allocable and reasonable.

(2) This subparagraph (c)(2) implements section 802 of the National Defense Authorization Act for Fiscal Years 1992 and 1993 (Pub. L. 102-190) and is effective for IR&D and B&P costs incurred by a contractor during fiscal years of that contractor that begin on or after October 1, 1992. Except as provided in paragraph (d) of this subsection,

or as provided in agency regulations, costs for IR&D and B&P are allowable as indirect expenses on contracts to the extent that those costs are allocable and reasonable. The following limitations apply to major contractors

(i) For the first three contractor fiscal years beginning on or after October 1, 1992, the total maximum allowable amount of IR&D/B&P costs shall not exceed the sum of:

(A) The total amount of allowable IR&D/B&P costs in the preceding fiscal year (i.e., the lower of the previous year's ceiling or actual costs incurred); plus

(B) Five percent of the amount in (c)(2)(i)(A) of this subsection; plus

(C) If the total amount of IR&D/B&P costs for a fiscal year is greater than the total amount of IR&D/B&P costs for the preceding fiscal year, the amount that is determined by multiplying the amount in (c)(2)(i)(A) of this subsection by the lesser of

(1) The percentage by which the total amount of IR&D/B&P costs for a fiscal year exceeds the total amount of such costs for the preceding fiscal year; or

(2) The percentage rate of inflation from the end of the preceding fiscal year to the end of the fiscal year for which the amount of the limitation is being computed. The rate of inflation shall be the price escalation index for the Research, Development, Test & Evaluation (RDT&E) account, Total Obligation Authority (TOA) which is published annually (normally in January) by the Department of Defense Comptroller and used in preparation of the annual submission of the Defense budget. This rate will be published in the Federal Register on an annual basis.

(ii) Major contractors shall submit, in accordance with agency guidance, financial and technical information to support their IR&D/B&P costs.

(iii) A waiver may be granted, in accordance with agency procedures, to increase the amount prescribed in (c)(2)(i) of this subsection for the following special circumstances:

(A) To ensure that the contractor's allowable IR&D/B&P costs are at least the same amount that would have been allowed under this subpart which was in effect on December 4, 1991; or

(B) When it is in the best interest of the Government.

(d) Deferred IR&D and B&P costs. (1) IR&D costs that were incurred in previous accounting periods are unallowable, except when a contractor has developed a specific product at its own risk in anticipation of recovering the development costs in the sale price of the product provided that

(i) The total amount of IR&D costs applicable to the product can be identified;

(ii) The proration of such costs to sales of the product is reasonable;

(iii) The contractor had no Government business during the time that the costs were incurred or did not allocate IR&D costs to Government contracts except to prorate the cost of developing a specific product to the sales of that product; and

(iv) No costs of current IR&D programs are allocated to Government work except to prorate the costs of developing a specific product to the sales of that product.

(2) When deferred costs are recognized, the contract (except firm-fixed-price and fixed-price with economic price adjustment) will include a specific provision setting forth the amount of deferred IR&D costs that are allocable to the contract. The negotiation memorandum will state the circumstances pertaining to the case and the reason for accepting the deferred costs.

(e) Cooperative arrangements. IR&D effort may be performed by contractors working jointly with one or more non-Federal entities pursuant to a cooperative arrangement (for example, joint ventures, limited partnerships, teaming arrangements, and collaboration and consortium arrangements). IR&D effort may also be performed by contractors pursuant to cooperative research and development agreements, or similar arrangements, entered into under (1) section 12 of the Stevenson-Wydler Technology Transfer Act of 1980 (15 U.S.C. 3710(a); (2) sections 203(c)(5) and (6) of the National Aeronautics and Space Act of 1958, as amended (42 U.S.C. 2473(c)(5) and (6)), when there is no transfer of Federal appropriated funds; (3) 10 U.S.C. 2371 for the Defense Advanced Research Projects Agency; or (4) other equivalent authority. IR&D costs incurred by a contractor pursuant to these types of cooperative arrangements should be considered as allowable IR&D costs if the work performed would have been allowed as contractor IR&D had there been no cooperative arrangement.

### KYLLAND SYSTEMS

You recently received the following firm fixed-price cost proposal from Kylland Systems for X-119 System replacement units. Kylland's cost proposal is summarized below.

PROPOSAL ELEMENT	PROPOSED COST
Purchased Parts	\$75,000
Commercial Items	\$125,000
Material Overhead @ 2.1%	\$4,200
Direct Engineering Labor	\$20,000
Engineering Overhead @ 84.0%	\$16,800
Direct Manufacturing Labor	\$75,000
Manufacturing Overhead @ 200.0%	<u>\$150,000</u>
Total Manufacturing Cost	\$466,000
G&A Expense @ 5.1%	<u>\$23,766</u>
Total Cost*	\$489,766

\* Kylland did not propose Facilities Capital Cost of Money

Because of the relatively low dollar amount, you did not request audit support, but you did request an in-house technical review of the Kylland cost proposal. The technical analyst spent several days reviewing direct costs and other direct costs. After this intensive review, he accepted all of these costs as proposed. However, he did not feel qualified to comment on indirect costs.

Now it is up to you to analyze the propose 19X8 indirect cost rates. Kylland has provided the following summary data for your review:

HISTORY OF PROPOSED INDIRECT COST RATES				
Indirect Cost Pool	X5	X6	X7	X8 and Forward
Material	2.1%	2.1%	2.1%	2.1%
Engineering	78.0%	78.0%	81.0%	84.0%
Manufacturing	144.0%	163.0%	179.0%	200.0%
G&A	5.2%	5.1%	5.1%	5.1%

ACTUAL INDIRECT COST RATES				
Indirect Cost Pool	X4	X5	X6	X7
Material	1.9%	1.9%	2.0%	2.4%
Engineering	66.7%	70.3%	73.3%	75.4%
Manufacturing	155.0%	150.0%	159.1%	178.6%
G&A	5.7%	5.0%	5.2%	5.6%

INDIRECT COST ACCOUNTS ACTUALS AND PROPOSED						
Indirect Cost Pool		X4 Actual	X5 Actual	X6 Actual	X7 Actual	X8 Proposed
Material	Pool	\$157	\$160	\$150	\$145	\$147
	Base	\$7,500	\$8,000	\$7,000	\$6,000	\$7,000
Engineering	Pool	\$4,400	\$5,200	\$4,400	\$4,000	\$4,704
	Base	\$6,600	\$7,400	\$6,000	\$5,300	\$5,600
Manufacturing	Pool	\$15,500	\$18,000	\$17,500	\$15,000	\$18,000
	Base	\$10,000	\$12,000	\$11,000	\$8,400	\$9,000
G&A	Pool	\$2,600	\$2,700	\$2,600	\$2,300	\$2,400
	Base	\$46,000	\$54,000	\$50,000	\$41,000	\$47,000

- How accurate have Kylland rate estimates been in the past?
- Based on your analysis, what is your projected Material Overhead Rate?  
  
Engineering Overhead Rate?  
  
Manufacturing Overhead Rate?  
  
G&A Expense Rate?
- Which rate(s) are the most supportable in negotiations? Why?
- What is your cost objective for the Kylland proposal?



## NEWTON CORPORATION

The Newton Corporation has been contracting with the Government for 10 years. In that time, the firm has won millions of dollars in Government contracts through sealed bidding. Newton has never before had to submit cost or pricing data for cost analysis by Government personnel.

Now you are contracting for a new product recently developed by Newton. There is no competition or commercial market, so you are requiring Newton to provide cost or pricing data. Unfortunately, you have been unable to obtain audit support because of the relatively small dollars involved, \$498,000.

One area that you are particularly concerned about is the manufacturing overhead rate. Newton has proposed a rate of \$850 per unit. However, you know that Newton produces a wide variety of items and you feel that units of production may not be a reasonable base for the allocation of overhead.

Accordingly, you have obtained the following data concerning manufacturing overhead expense and four possible bases for the past three years.

	INDIRECT COST POOL AND POTENTIAL BASES			
	19X4	19X5	19X6	19X7 (PROJ)
Manufacturing Indirect Cost	\$3,345,000	\$2,987,000	\$3,537,000	\$3,995,000
Units Produced	4,500	4,495	4,600	4,700
Direct Labor Dollars	\$1,875,000	\$1,874,250	\$1,930,500	\$2,034,100
Direct Labor Hours	150,000	147,000	143,000	143,500
Production Machine Hours	74,000	70,500	80,000	82,000

1. Which base historically appears to have the strongest relationship with Manufacturing Indirect Cost?
2. Using Newton's 19X7 estimate for the base that you identified in Question 1, estimate Newton's Manufacturing Overhead rate for 19X7.
3. Estimate Manufacturing Overhead for your contract, given your rate estimate and the following contract information: 200 units, 6,200 direct manufacturing labor hours, \$87,900 for direct manufacturing labor; and 3,500 machine hours.

## MONTROSE MANUFACTURING

You have negotiated a cost-plus-fixed-fee contract with Montrose Manufacturing. The estimated contract cost is \$7,873,600. The fixed fee is \$629,400 and the estimated contract price is \$8,503,000.

To facilitate the processing of cost-reimbursement vouchers, you have established billing rates. Further, you coordinate with the auditor to determine if there is a need for rate adjustment based on changes in the rate projections. Rates can change at any time, but they are most likely to change at the end of each quarter as a result of the Government's review of Montrose's quarterly forecast revisions.

To examine the effects of billing rate changes, we will assume that contract direct costs will follow the spending pattern delineated in the table below:

DIRECT COSTS FOR 12-MONTH CONTRACT			
MONTH	MATERIAL	ENGINEERING DIRECT LABOR	MANUFACTURING DIRECT LABOR
1	\$94,000	\$60,000	\$0
2	\$205,000	\$65,000	\$20,000
3	\$300,500	\$62,000	\$65,250
4	\$400,000	\$58,000	\$85,925
5	\$1,050,500	\$54,500	\$135,890
6		\$64,748	\$165,600
7		\$54,500	\$184,300
8		\$44,350	\$125,200
9		\$49,000	\$176,200
10		\$42,500	\$164,850
11		\$40,400	\$163,080
12		\$52,500	\$125,600
Total	\$2,050,000	\$647,498	\$1,411,895

1. Calculate the contractor's cost reimbursement for the first month of the contract. The contractor's indirect cost billing rates are:
  - Material Overhead                      4.5% of Direct Material Cost
  - Engineering Overhead                65.0% of Direct Engineering Labor Dollars
  - Manufacturing Overhead            175.0% of Direct Manufacturing Labor Dollars
  - G&A Expense                        11.0% of Total Input Cost (Direct Cost + Overheads)
  
2. Using the Billing Spreadsheet Template and the rates in Question 1, calculate the contractor's cost reimbursement for the first three months of the contract using the rates above.
  
3. At the end of the first three months of the contract, the contractor performs a quarterly update of indirect cost rates. The new rates are:
  - Material Overhead                      4.2% of Direct Material Cost
  - Engineering Overhead                60.0% of Direct Engineering Labor Dollars
  - Manufacturing Overhead            170.0% of Direct Manufacturing Labor Dollars
  - G&A Expense                        10.5% of Total Input Cost (Direct Cost + Overheads)
  - a. As the contracting officer, should you initiate a change in billing rates based on the new projections?
  
  - b. If you do not revise the Billing Rates, what would be the contractor's reimbursement for Months 4, 5, and 6 of the contract?
  
  - c. If the Billing Rates are revised to the projected rates above, what would be the contractor's reimbursement for Months 4, 5, and 6 of the contract?

4. At the end of the first six months of the contract, the contractor performs a quarterly update of indirect cost rates. The new rates are:
- Material Overhead                      4.7% of Direct Material Cost
  - Engineering Overhead                68.0% of Direct Engineering Labor Dollars
  - Manufacturing Overhead            172.0% of Direct Manufacturing Labor Dollars
  - G&A Expense                        12.0% of Total Input Cost (Direct Cost + Overheads)
- a. Prior to these new projections, you have been using the rates in Question 3. As the contracting officer, should you initiate a change in billing rates based on the new projections?
- b. If you continue to use the Billing Rates in Question 3, what would be the contractor's reimbursement for Months 7, 8, and 9 of the contract?
- c. If you revise the Billing Rates to the projected rates above, what would be the contractor's reimbursement for Months 7, 8, and 9 of the contract?
5. At the end of the first nine months of the contract, the contractor performs another quarterly update of indirect cost rates. The new rates are:
- Material Overhead                      4.9% of Direct Material Cost
  - Engineering Overhead                70.0% of Direct Engineering Labor Dollars
  - Manufacturing Overhead            180.0% of Direct Manufacturing Labor Dollars
  - G&A Expense                        12.0% of Total Input Cost (Direct Cost + Overheads)
- a. Prior to these new projections, you have been using the rates in Question 4. As the contracting officer, should you initiate a change in billing rates based on the new projections?
- b. If you continue to use the Billing Rates in Question 4, what would be the contractor's reimbursement for Months 10,11, and 12 of the contract?

- c. If you revise the Billing Rates to the projected rates above, what would be the contractor's reimbursement for Months 10, 11, and 12 of the contract?
6. How do the total contract costs calculated in Question 5c compare with original contract cost estimates?
7. Other than adjusting the billing rates, should you have taken any action because of your answer to Question 6 above? When?

## MURTAUGH CORPORATION

You have been assigned to clean-up your organization's backlog of contracts that are physically complete but still active because you have not received final overhead rate audits. You know that quick closeout is one possible solution and you want to use it whenever it is appropriate.

Two Murtaugh Corporation contracts are possible candidates for quick closeout. Both are cost-plus-fixed-fee contracts -- one for \$750,000 (with \$425,000 in indirect cost) and the other for \$2.5 million (with \$1.5 million in indirect cost). You have never approached Murtaugh about the possibility of using quick-closeout procedures, but you think they may be interested because the firm has unsettled indirect costs of \$30 million for 19X9 on cost-reimbursement contracts.

1. Can you use quick-closeout procedures with the:
  - a. \$750,000 contract?
  - b. \$2.5 million contract?
2. Given the data presented in the table below develop a negotiation position on a Quick

MANUFACTURING OVERHEAD FINAL RATE HISTORY					
Position		19X6	19X7	19X8	19X9
Contractor Proposed	Pool	\$16,652,000	\$17,258,000	\$17,975,000	\$18,500,000
	Base	\$8,846,500	\$9,156,000	\$9,646,000	\$9,850,000
	Rate	188.2%	188.5%	186.3%	187.8%
Audit Recommended	Pool	\$16,652,000	\$17,080,000	\$17,815,000	
	Base	\$8,846,500	\$9,156,000	\$9,646,000	
	Rate	188.2%	186.5%	184.7%	
Negotiated	Pool	\$16,652,000	\$17,150,000	\$17,875,000	
	Base	\$8,846,500	\$9,156,000	\$9,646,000	
	Rate	188.2%	187.3%	185.3%	

Closeout rate for Manufacturing Overhead.

3. What additional information would be useful in developing your negotiation position?
4. Using the rate developed in Question 2, what would be your objective Manufacturing Overhead if the base were \$150,000.
5. If you negotiated a Quick Closeout rate of 187.8 percent and later the final rate determination was 185.6 percent, how much money would the contractor owe the Government?

## **CHAPTER 2**

### **Forecasting Cost Overruns**

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## LEARNING OBJECTIVES

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At the end of this  
Chapter

At the end of this chapter, you will be able to:

**Classroom Learning Objective 2/1**

- Determine the degree to which actual costs to date vary from original estimates of what the work would cost.

**Classroom Learning Objective 2/2**

- Estimate the cost to complete the work.

**Classroom Learning Objective 2/3**

- Describe options for resolving potential overruns and underruns.
-



## CHAPTER OVERVIEW

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### In This Chapter

This chapter covers:

DESCRIPTION	SEE PAGE
2.1 Identifying and Analyzing Cost and Schedule Variances	2–6
2.2 Estimating Cost to complete	2–30
2.3 Resolving Potential Cost Overruns	2–34
Questions and Problems	2–38
Cases	2–39

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### References

FAR 32.503-4  
 32.503-5  
 42.1103  
 42.1104  
 42.1105  
 52.216-7

DoD Directive 7000.2

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## CHAPTER OVERVIEW

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### Introduction

Information on variances from cost and schedule projections can provide information essential for effective contract administration, including information:

FAR 52.232-20  
FAR 52.232-22  
FAR 52.232-7(c)

- On the contractor's ability to complete a specific contract on schedule. This information is important for the administration of any contract. However, it is most important for cost-reimbursement, time and material, and labor hour contracts. For these contracts, the contractor has no obligation to complete the work required by the contract. The contractor only agrees to put forth its best effort to complete the contract within funding, cost, or price limitations.
- For pricing contract modifications. Information on contractor cost and schedule performance is essential to negotiating an equitable adjustment that leaves the contractor in the same profit position as it was before the modification.
- For pricing follow-on contracts before the current contract is complete. Information on cost of the current contract can be a key element in projecting the cost of future contracts.

FAR 52.243-1(b)  
FAR 52.243-2(b)  
FAR 52.243-3(b)  
FAR 52.243-4(d)

### Contract Surveillance

While the contractor is responsible for timely cost effective contract performance, the Government is responsible for maintaining contract surveillance to the extent necessary to protect the Government's interests. Appropriate procedures for identification and analysis of cost and schedule variances should be a part of every contract surveillance plan.

FAR 42.1103

FAR 42.1104

If you are a contracting officer preparing a new contract, consider the information required for effective surveillance of contract performance as you define contract reporting requirements. If you are the contracting officer responsible for contract administration, determine the contract surveillance requirements based on the criticality of the contract requirement to the Government and the circumstances affecting contract performance.

*(Topic continued on next page)*

Contract  
Surveillance  
(continued)

FAR 42.1105

**Criticality to the Government.** In general, the more critical the requirement is to the Government, the more consideration you should give to contract surveillance, including cost and schedule variance identification and analysis. The table below delineates general requirement criticality to Government operations.

CRITICALITY OF SUPPLIES OR SERVICES		
Criticality Category	Relative Criticality to Government Operations	Criterion
A	Most critical.	Critical contracts (including DX-rated contracts), contracts involving unusual and compelling urgency, and contracts for major systems.
B	Moderately critical.	Contracts (other than those designated “A”) for items needed to maintain a Government or contractor production or repair line, to preclude out-of-stock conditions, or to meet user needs for non-stock items.
C	Least critical.	All other contracts.

**Circumstances of the Contract.** In general, the more complex or difficult the contract, the more consideration you should give to contract surveillance. When analyzing contract complexity, consider:

FAR 16.301-3(b)  
FAR 16.601(b)(1)

FAR 42.1104

- *Contract type.* Cost-reimbursement, time-and-materials, and labor-hour contracts typically require greater surveillance than fixed-price contracts.
- *Contract performance schedule.* Contracts with longer schedules will normally merit closer surveillance, because there is a longer period before late deliveries and other routine indicators will indicate a problem. A contract with an ambitious completion schedule also will normally merit closer surveillance.
- *Contractor’s history of contract performance.* A contractor with a history of overruns will normally merit closer surveillance.
- *Contractor’s experience with the contract supplies or services.* A contractor with limited experience providing the contract supply or service will normally merit closer surveillance.
- *Contractor’s financial responsibility.* A contractor with marginal financial responsibility will normally merit closer surveillance.
- *Any supplementary written instructions from the contracting office.*

Pricing Contract  
Modifications

---

Identification of cost overruns can be an important consideration in establishing a fair and reasonable price for a contract modification. Pricing equitable adjustments will be considered in greater detail in Chapter 3.

## 2.1 IDENTIFYING AND ANALYZING COST AND SCHEDULE VARIANCES

---

### Introduction

To identify potential cost overruns, you need to be able to consider contractor cost and schedule variances from initial cost estimates. For example, a contractor in Month 4 of a 12-month contract is tracking perfectly with estimated costs through Month 4. However, the contractor is two months behind schedule. In other words, two months of actual performance have cost as much as four months were projected to cost. If we consider only cost, there does not appear to be a problem. However, if we consider both cost and schedule, there appears to be significant potential for a cost and/or schedule overrun.

You can use information from a variety of sources to monitor cost and schedule performance variance, including:

- Contractually required documents, including:
  - Cost/Schedule Control Systems Criteria
  - Progress payment requests
  - Cost-reimbursement vouchers
  - Contract progress reports
  - Limitation of Cost/Funds Notices
- Contractor production management reports and analyses, including:
  - Phase Planning or Gantt Charts
  - Production Flow Charts
  - Program Evaluation and Review Technique (PERT) network analyses
- Progress review meetings
- Observation by Government personnel

*(Topic continued on next page)*

Introduction  
(continued)

The method that you select must be appropriate for the contract. When you have a contract for a requirement in Criticality Category A (particularly a major acquisition), you should consider Cost/Schedule Control System Criteria (C/SCSC). The risk involved will likely merit the additional cost of the required reporting system.

It is unlikely that a requirement in Criticality Category C would merit the added cost. For low-value low-risk items, you would probably rely on routine observation by Government personnel.

To be effective, the method that you select must provide or permit you to develop:

- A cost baseline upon which the original contract cost was derived (usually the contractor's budget).
- Actual costs incurred for completed work.
- An estimate to complete.

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Cost/Schedule  
Control Systems  
Criteria

On cost-reimbursement contracts for major acquisitions, the Cost/Schedule Control Systems Criteria (C/SCSC) are used to determine the adequacy of the contractor's internal management systems. Under C/SCSC, summary data from the contractor's internal management control systems are reported to the Government through use of a Cost Performance Report (CPR).

For major contracts that merit careful cost tracking but not complete application of C/SCSC, consider use of the Cost/Schedule Status Report (C/SSR). C/SSR requires the contractor to present data similar to the C/SCSC Cost Performance Report but does not require the in-depth demonstration reviews or management system acceptance associated with C/SCSC. The manner in which the C/SSR data are generated is subject to negotiation and inclusion as part of the contract.

Consult agency guidance for criteria governing the application of C/SCSC or C/SSR requirements to major acquisitions.

*(Topic continued on next page)*

DoD Directive  
7000.2

**Work Breakdown Structure.** The starting point for C/SCSC is the contract Work Breakdown Structure (WBS). The WBS is a product-oriented family tree division of hardware, software, services, and other work tasks which organizes, defines, and graphically displays the product to be produced, as well as the work to be accomplished to achieve the specified product. The WBS is made of multiple levels that “explode” the work to be performed down into identifiable work packages. In a common WBS, Level 1 is the entire system. Level 2 is the major elements of the Level 1. Level 3 is the major elements of the Level 2 elements. The number of levels depends on the complexity of the system and the perceived need for in-depth visibility. The decision on the number of levels required for analysis is made by the Government during acquisition planning. When you expect that the contract will include C/SCSC, the request for proposal should stipulate the WBS and the number of levels that the proposal should address. When you establish a minimum requirement in the solicitation, the contractor can provide more levels of information than you require, but it cannot provide fewer.

The two tables below provide a WBS example. The example is for a missile system, but the concept of an increasingly detailed structure can be applied to any major acquisition.

MISSILE SYSTEM WORK BREAKDOWN STRUCTURE, LEVELS 1-3		
LEVEL 1	LEVEL 2	LEVEL 3
Missile System	Air Vehicle	Integration and Assembly Propulsion Stage 1 Stage 2 Stage 3 Guidance & Control Equipment Launched Payload Payload Shroud Airborne Test Equipment Airborne Training Equipment Auxiliary Equipment
	Command & Launch Equipment	Integration & Assembly Surveillance, Identification, & Tracking Sensors Launch & Guidance Control Communications Data Processing Launcher Equipment Auxiliary Equipment
	Training	Equipment Services Facilities

*(Table continued on next page)*

## Section 2.1 Identifying and Analyzing Cost and Schedule Variances

LEVEL 1	LEVEL 2	LEVEL 3
Missile System (continued)	Peculiar Support Equipment	Organizational/Intermediate/Depot
	System Test & Evaluation	Development of Test & Evaluation Operational Test & Evaluation Mockups Test & Evaluation Support Test Facilities
	Systems/Project Management	Systems Engineering Project Management
	Data	Technical Publications Engineering Data Management Data Support Data Data Depository
	Operational/Site Activation	Contractor Technical Support Site Construction Site/Ship/Vehicle Conversion System Assembly, Installation, & Checkout on Site
	Common Support Equipment	Organizational/Intermediate/Depot
	Industrial Facilities	Construction/Conversion/Expansion Equipment Acquisition or Modernization Maintenance
	Initial Spare & Repair Parts	Specify by allowance list, grouping, or hardware element

Note that each level provides more detailed information than the preceding level. The table below provides a more detailed picture of a single Level 3 element Launched Payload.

MISSILE SYSTEM —LAUNCHED PAYLOAD WORK BREAKDOWN STRUCTURE, LEVELS 1-5				
LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
Missile System	Air Vehicle	Launched Payload	Re-Entry Vehicle	Nose-Tip Heat Shields Structure
			Bus	Structure Guidance Propulsion
			Arming & Fusing System	Electronics Sensors Trigger
			Decoy Systems	Chaff System Penetration Aids



Cost/Schedule  
Control Systems  
Criteria  
(continued)

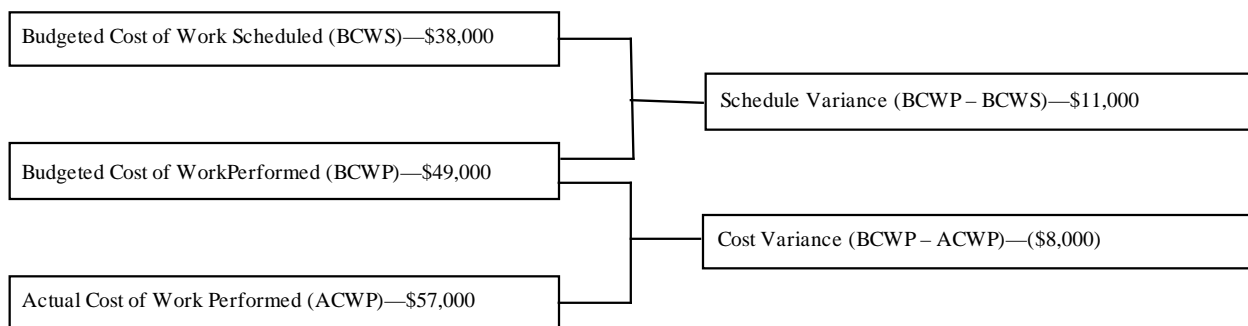
**Contract Cost/Schedule Baseline.** With the cost and schedule information from the proposal and contract negotiation, a tracking baseline can be established. Under C/SCSC, the contractor is required to establish and maintain the baseline.

The baseline is structured using cost accounts—management control points where actual costs are accumulated and performance evaluated. Each account represents the work assigned to one responsible organizational element.

**Cost Comparisons.** Given the baseline, comparisons can be drawn between the anticipated cost and actual cost of the project. In order to establish a common reference point for identifying variances, the following units of measure have been developed:

- **Budgeted Cost of Work Scheduled (BCWS).** BCWS is the amount budgeted for work scheduled to be accomplished. It is a time-phased expenditure plan, measurable for the current, cumulative-to-date, and contract completion time periods.
- **Budgeted Cost of Work Performed (BCWP).** BCWP is the amount budgeted for that portion of the scheduled work that was actually performed (i.e., what the contractor planned to spend for the work actually accomplished).
- **Actual Cost of Work Performed (ACWP).** ACWP is the amount actually spent in the accomplishment of work performed. The amount actually spent includes direct costs (e.g., labor and material) and indirect costs (e.g., overhead and G&A expense).

The following example demonstrates how BCWS, BCWP, and ACWP can be used to identify contract cost/schedule variances:



In the above example, the contractor is ahead of schedule. BCWP is \$11,000 greater than BCWS. That is almost 29 percent more work completed than was scheduled. However, for the work performed, the contractor is over budget. The ACWP is \$8,000 more than the BCWP. That is approximately 16 percent over budget.

*(Topic continued on next page)*

Cost/Schedule  
Control Systems  
Criteria  
(continued)

**Variance Analysis.** Note that the calculations above identify an area where actual contract costs exceed budgeted costs but do not explain why. There may or may not be a real problem. C/SCSC also requires the contractor to:

- Identify the reasons for significant differences.
- Identify management actions taken to resolve any problems identified.
- Develop revised estimates of cost-at-completion for each WBS element identified in the contract and compare them with the contract budget base and the latest Statement of Funds Requirements report to the Government.

Normally, you will need support from Government technical personnel to review the contractor's analysis and determine the reason for, and the significance of, any cost variance.

**Report Example.** The Figure below presents one of the key elements of the Cost Performance Report, the Cost Performance Report Work Breakdown Structure. An actual Cost Performance Report would typically also include:

- An analysis of performance by functional category.
- A presentation of the time-phased contract Budgeted Cost baseline.
- A presentation of time-phase manpower loading.
- A problem analysis.

COST PERFORMANCE REPORT WORK BREAKDOWN STRUCTURE								
Contract Budgeted Baseline \$ 1.5 Mil  WBS Element	Cumulative Cost To Date (in \$000)					Cost-At-Completion (in \$000)		
	Budgeted Cost		Actual Cost Work Performed	Cost Variance		Budgeted Cost	Latest Revised Cost Estimate	Variance
	Work Scheduled	Work Performed		Schedule	Cost			
A	250	250	260	0	(10)	250	260	(10)
B	90	85	84	(5)	1	100	100	0
C	130	150	155	20	(5)	330	340	(10)
D	200	200	185	0	15	250	235	15
E	300	310	320	10	(10)	400	415	(15)
F	120	120	140	0	(20)	120	140	(20)
Subtotal	1,090	1,115	1,144			1,450	1,490	(40)
Mgt. Reserve						50		50
Total	1,090	1,115	1,144			1,500	1,490	10

Cost/Schedule  
Control Systems  
Criteria  
(continued)

Based on the above report, you could make the following observations:

Element A Comparison of BCWS, BCWP, and the Cost-at-Completion Budgeted reveals that all are equal and the work under Element A is complete.

Comparison of BCWP and ACWP reveals that the element experienced a \$10,000 overrun at completion.

Comparison of the Cost-at-Completion Budgeted, Latest Revised Estimate, and Variance columns also reflect the \$10,000 overrun.

Element B Comparison of BCWS with BCWP reveals that the work is behind schedule.

Comparison of BCWP with ACWP shows that the contractor is slightly underrunning budgeted cost.

Comparison of the Cost-at-Completion Budgeted, Latest Revised Estimate, and Variance columns indicates that the work is expected to be on budget at completion.

Element C Comparison of BCWS with BCWP reveals that the work is ahead of schedule.

Comparison of BCWP with ACWP shows that the contractor is experiencing a slight overrun of \$5,000 over budgeted cost.

Comparison of the Cost-at-Completion Budgeted, Latest Revised Estimate, and Variance columns indicates that the overrun is expected to grow to \$10,000 at completion.

Element D Comparison of BCWS with BCWP reveals that the work is on schedule.

Comparison of BCWP with ACWP shows that the contractor is experiencing an underrun of \$15,000.

Comparison of the Cost-at-Completion Budgeted, Latest Revised Estimate, and Variance columns indicates that the underrun is expected to remain at \$15,000 through completion.

Cost/Schedule  
Control Systems  
Criteria  
(continued)

Element E Comparison of BCWS with BCWP reveals that the work is ahead of schedule.

Comparison of BCWP with ACWP shows that the contractor is experiencing an overrun of \$10,000.

Comparison of the Cost-at-Completion Budgeted, Latest Revised Estimate, and Variance columns indicates that the overrun is expected to grow to \$15,000 at completion.

Element F Comparison of BCWS, BCWP, and the Cost-at-Completion Budgeted reveals that all equal and the work under Element F is complete.

Comparison of BCWP and ACWP reveals that the element experienced a \$20,000 overrun at completion.

Comparison of the Cost-at-Completion Budgeted, Latest Revised Estimate, and Variance columns also reflect the \$20,000 overrun.

Subtotal Comparison of the Cost-at-Completion Budgeted, Latest Revised Estimate, and Variance Subtotals reveal a projected net overrun of \$40,000. Since the contractor had set aside a management reserve of \$50,000, the contract is still within the original Budgeted Cost baseline with \$10,000 of management reserve remaining. There appears to be little need for in-depth technical analysis at this time because the contractor is still within the original Budget Cost baseline and the contract is 76 percent complete.

Requests for  
Progress Payment

A contractor making a request for progress payments must complete a Standard Form (SF) 1443, Contractor's Request for Progress Payment. As part of the request, the contractor must identify total costs to date and estimated additional cost to complete. The estimated additional cost to complete may be the last estimate made, adjusted for costs incurred since the last estimate. However, the contractor must revise the estimate at least semi-annually.

Before making progress payments, you must establish the reliability of the contractor's accounting system and controls (See Chapter 8). Once you have done that, you may rely on the accounting system and the certification on the SF 1443 when making a progress payment.

*(Topic continued on next page)*

Requests for  
Progress Payment  
(continued)

FAR 32.503-4

Normally, you should not request an audit of progress payment requests, including the estimated cost to complete the contract. However, you should consider requesting an audit if you have reason to:

- Question the reliability or accuracy of the contractor's certification on the SF 1443, or
- Believe that the contract will involve a loss.

FAR 32.503-5

While you may rely on the contractor's accounting system and certification without prepayment review, you must make periodic reviews to determine the validity of progress payments already made or expected to be made. These post-payment reviews must include a number of elements including a determination that the contract price will be adequate to cover the anticipated cost of contract completion or that the contractor has adequate resources to complete the contract. A review of the contractor's actual physical progress should be a part of these post-payment reviews.

Cost-  
Reimbursement  
Vouchers

FAR 52.216-7

Under cost-reimbursement contracts, the contractor can submit vouchers or invoices for payment of costs. Unlike the Contractor's Request for Progress Payment, the contractor is not required to submit an estimate of the cost to complete the contract with the cost-reimbursement voucher. However, the vouchers do provide an excellent record of the contractor's costs including:

- Those recorded costs that, at the time of the request for reimbursement, the contractor has paid by cash, check, or other form of actual payment for items or services purchased directly for the contract.
- Costs incurred, but not necessarily paid for:
  - Materials issued from the contractor's inventory and placed in the production process for use on the contract.
  - Direct labor.
  - Direct material.
  - Other direct in-house costs.
  - Properly allocable and allowable indirect costs, as shown in the records maintained by the contractor for purposes of obtaining reimbursements under Government contracts.
- The amount of progress payments that have been paid to the contractor's subcontractors.

*(Topic continued on next page)*

Cost-  
Reimbursement  
Vouchers  
(continued)

- Contractor contributions to any pension or other post-retirement benefit, profit sharing, or stock ownership plan paid in accordance with the requirements of FAR 52.216-7(b)(2)

FAR 52.216-7(b)(2)

This cost information coupled with other information such as production surveillance and reporting documents can be used to identify potential cost overruns.

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Contract Progress  
Reports

Contracts often require periodic reports on contractor progress toward contract completion. Many require a Contract Funds Status Report (CFSR) in a format similar to that on the next page.

These reports may or may not require the contractor to provide information on total costs expended to date. Even if cost information is not required as part of progress reporting, the reports can be combined with cost information from contractor requests for progress payment or cost-reimbursement vouchers to obtain a general picture of contract progress compared to costs expended. If you identify an apparent problem, you should request a technical review of the contractor's physical progress toward contract completion.

*(Topic continued on next page)*

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### Limitation of Cost/Funds Notice

All cost-reimbursement contracts must include a contract clause limiting the Government's obligation to reimburse contractor costs. As shown in the table below, each of the clauses used to limit the Government's obligation also requires contractor notification that total costs are approaching that limit.

CONTRACTOR NOTIFICATION REQUIREMENTS		
If the contract is...	Then the contract must include the...	Which requires the contractor to notify the Government when total:
A fully-funded cost-reimbursement contract for other than consolidated facilities, facilities acquisition, or facilities use	Limitation of Cost clause (FAR 52.232-20)	Contract costs are expected to... <ul style="list-style-type: none"> <li>• Exceed a stated percentage (normally 75 percent) of estimated contract cost within a stated period (normally 60 days); or</li> <li>• Be either greater or substantially less than previously estimated.</li> </ul>
A cost-reimbursement contract for consolidated facilities, facilities acquisition, or facilities use	Limitation of Cost (Facilities) clause (FAR 52.232-21)	Contract costs are expected to... <ul style="list-style-type: none"> <li>• Exceed 85 percent of estimated contract cost within the next 30 days; or</li> <li>• Be either greater or substantially less than previously estimated.</li> </ul>
An incrementally-funded cost-reimbursement contract	Limitation of Funds clause (FAR 52.232-22)	Contract costs are expected to... <ul style="list-style-type: none"> <li>• Exceed a stated percentage (normally 75 percent) of amount so far allocated to the contract cost<sup>1</sup> within a stated period (normally 60 days).</li> </ul>
A time-and-material or labor-hour contract.	Payments Under Time-and-Materials and Labor-Hour Contracts clause (FAR 52.232-7)	Hourly rate payments and material costs are expected to: <ul style="list-style-type: none"> <li>• Exceed 85 percent of the ceiling price within the next 30 days.</li> <li>• Be substantially greater or less than the stated ceiling price.</li> </ul>

<sup>1</sup> For cost-sharing contracts, the contractor must notify the Government when total cost is expected to be within the stated percentage of the amount allocated to the contract by the Government plus the contractor's corresponding share.

*(Topic continued on next page)*

Limitation of  
Cost/Funds Notice  
(continued)

The notices required by these clauses provide a clear notice of the contract status and the cost of continued performance. The Limitation of Cost clauses require the contractor to provide a revised estimate of total cost required to perform the contract. The Limitation of Funds clause requires the contractor to notify the contracting officer in writing of the estimated amount of additional funds, if any, required to continue timely performance under the contract or for any further period specified in the contract schedule or otherwise agreed upon, and when the funds will be required.

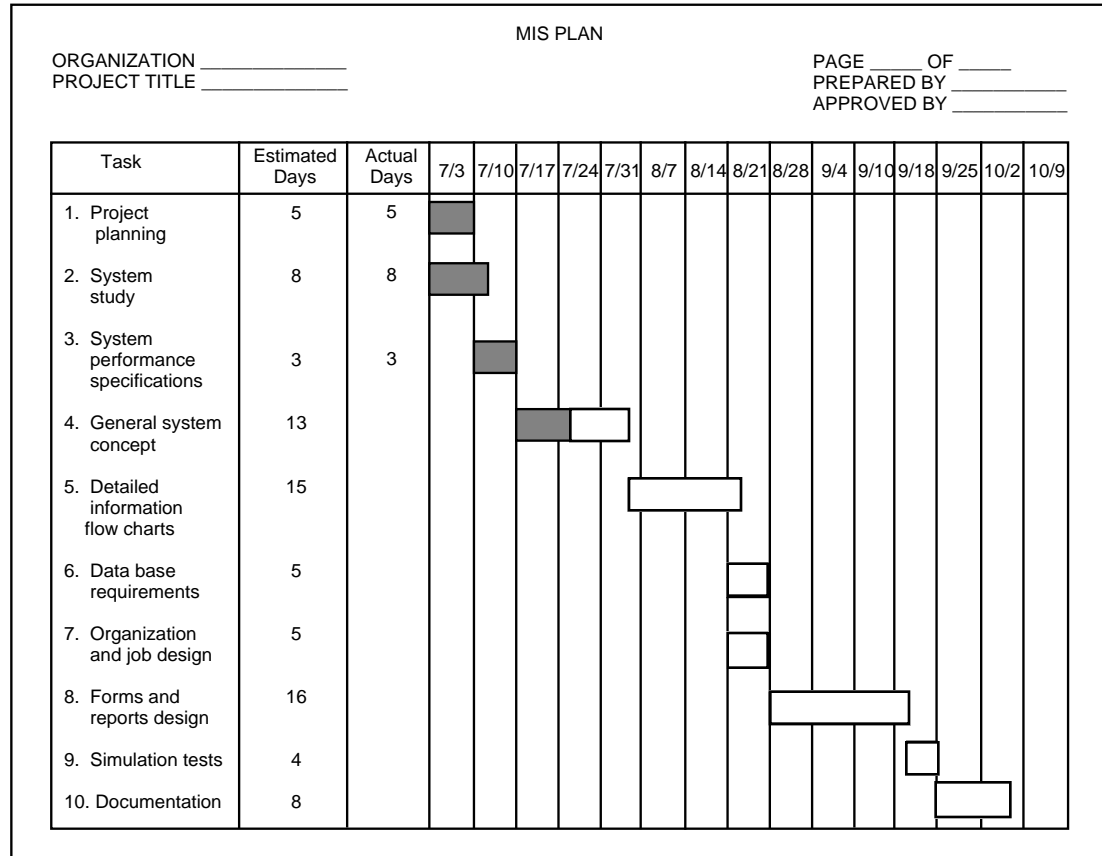
DO NOT expect contractor notification requirements to replace effective contract surveillance! You should be questioning significant variations long before contractor notification. By the time you receive contractor notification, it may be too late for the contractor to take corrective action. In fact, the contractor may fail to provide timely notice despite the contract requirement. There have been situations where the contractor did not provide notice until after all contract funds were expended.

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### Phase Planning or Gantt Charts

One of the most common techniques for managing schedules for both supply and service contracts is the Phase Planning Chart (normally referred to as a Gantt Chart). The Gantt Chart provides a graphical representation of the start date and end date and process time for each phase in the production process.



The Gantt Chart above depicts the critical tasks required to develop a Management Information System (MIS) Plan. For each task, the estimated days required to complete the task are identified along with a graphic representation of the length of time required. In the graphic presentation, bars representing contract effort and a grid scaled to the indicated time (e.g., weeks in the example above) are used to indicate the estimated length of time required to complete each task. As the work is performed, the bars may be shaded to indicate the time worked. If more time than estimated is required to complete a task, the related bar is extended. When the task is completed, the actual days required are also annotated.

*(Topic continued on next page)*

Phase Planning or  
Gantt Charts  
(continued)

With some understanding of the effort required, you can use this Gantt chart to identify schedule problems that will effect the cost to complete the project. For example, the chart above shows that the performance specifications should be completed before work begins on the general system concept. If development of the performance specifications took 10 days instead of three, that delay could effect the entire project. The contractor would need to examine ways of shortening other tasks or performing tasks concurrently to meet the required schedule.

If the problems extend the time required to complete an activity on the critical path, the contractor must take action to identify cost effective ways to meet the original schedule. When there is a schedule or cost risk, Government technical personnel should be called upon to examine the contractor's analysis and projected action.

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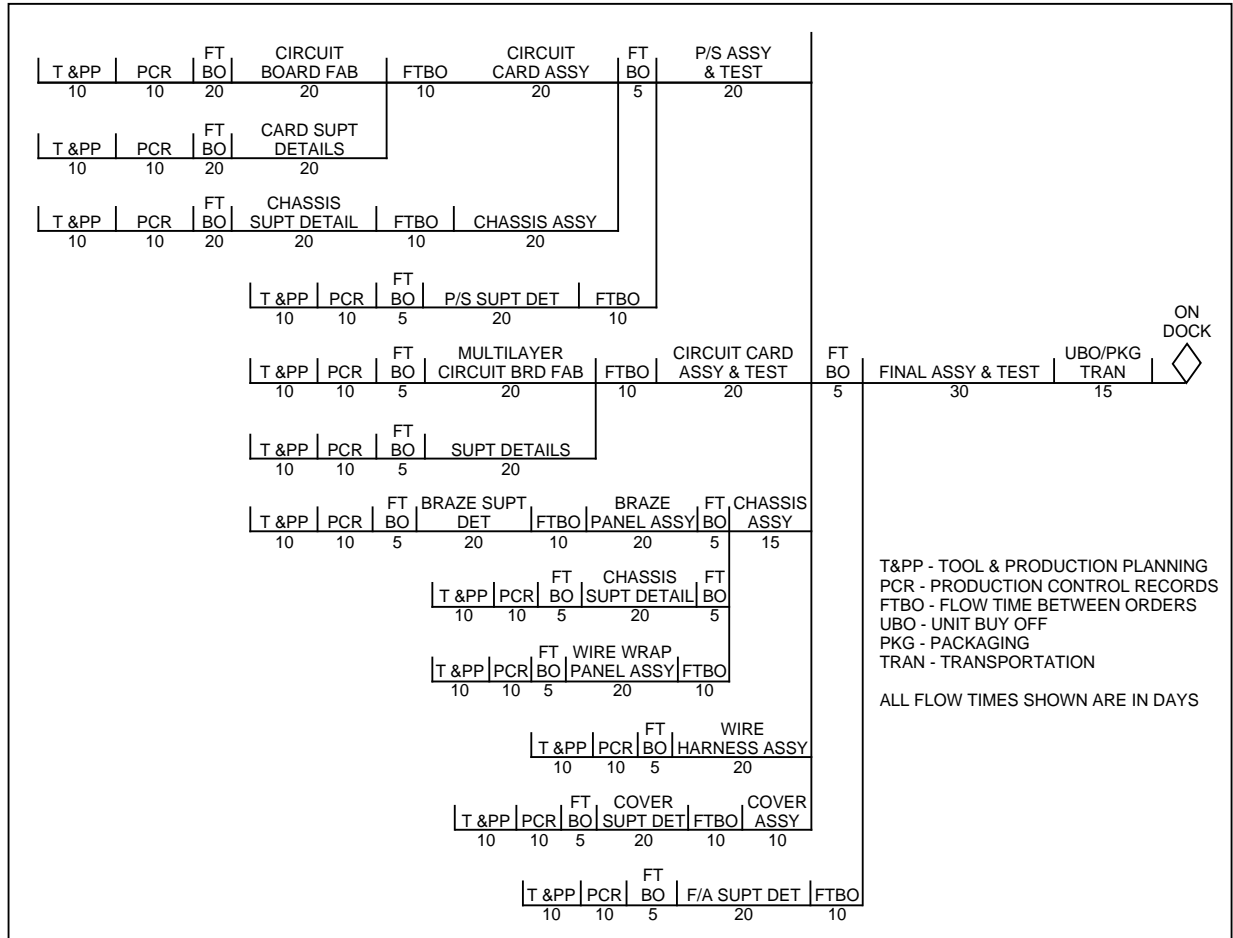
Production Flow  
Charts

Production flow charts can be developed to more clearly define contract schedules. The production flow chart is developed using the major schedule milestones, production sequence, and projected manpower. The example below depicts the first unit flow chart for a new product.

The flow time for each of the assemblies is determined by utilizing the estimated labor hours, the most desirable crew size, and the number of shifts to be used.

With the overall sequence of the major operations defined, all of the simultaneous activities and operations can be scheduled for completion to meet subsequent events which are dependent upon them. Start times for all the simultaneous activities and operations can be determined by individually working back through the required flow times. The flow times for individual elements will dictate the scheduling of element start times.

*(Topic continued on next page)*



Using this procedure, the entire schedule can be displayed on a single chart. All organizations can determine at a glance when their responsibilities start, the estimated time required, and the required completion time. The effect of delays on the overall schedule also becomes obvious.

In the chart above, if circuit card assembly and test required 22 days instead of 20, the overall project would not be delayed because of the 5-day flow time between orders. However, if circuit card assembly and test required 40 days because of production problems, contractor corrective action would be necessary to meet the original schedule.

With knowledge of the interrelated activities required for production, Government personnel could raise questions regarding contractor corrective actions. Contractor projected actions could be evaluated for effectiveness and potential effect on cost.

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Program  
Evaluation and  
Review  
Technique

The Program Evaluation and Review Technique (PERT) takes the analysis of production flow one step further. PERT permits the contractor to analyze the relationships of all elements needed to complete a project and identify the critical path—the path that defines the estimated time required to complete the project.

If an element requires more time than estimated, PERT permits analysis of the effect on timely project completion (the critical path). If the increased time required to complete the element does not affect the critical path, no management action may be required. If the completion schedule is affected, PERT permits analysis of alternative corrective actions and the cost associated with each action.

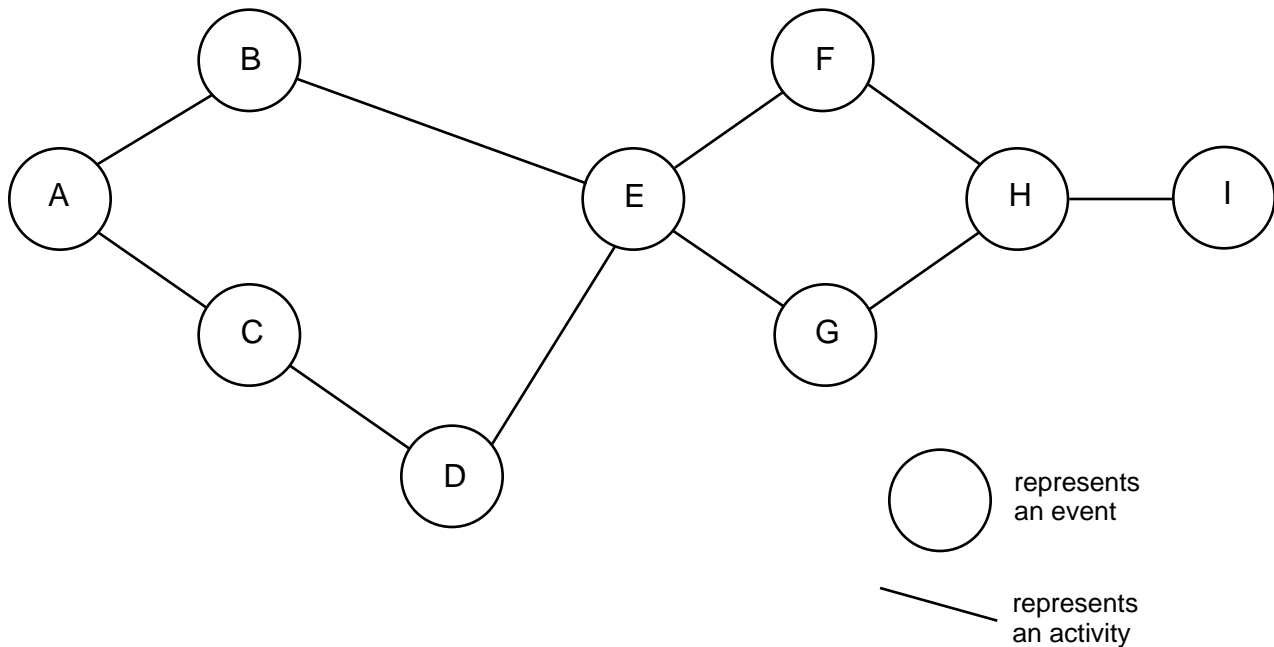
**PERT Events and Activities.** To understand PERT analysis, you must first understand PERT network structure. The PERT network is composed of events and activities.

An **event** is a specific milestone that must be reached before a new activity can begin. For example, a foundation must be completed before a contractor can start erecting a building frame. On a PERT chart, events are typically shown as circles or nodes.

An **activity** is the work effort over a period of time required to achieve a specific event. On a PERT chart, activities are shown as the lines that connect the event circles, and in effect define the relationships of the activities and events required to complete a project.

The figure below depicts a PERT network. Network events are labeled with letters (e.g., A, B, C, etc.). The activity that begins at A and ends at B is referred to as AB. Note that activities AB, BE, AC, CD, and DE, all must be completed before Event E can be achieved.

*(Topic continued on next page)*



**Activity Times.** The next thing needed to develop the PERT network is information on the length of time to accomplish each activity. PERT uses three estimates of the time required to complete each activity, the:

- a = Optimistic time—the completion time if everything goes as well as can be expected.
- m = Most likely time—the completion time if everything goes as expected.
- b = Pessimistic time—the completion time if the things that may go wrong do go wrong.

They are combined into a single activity time estimate using the following equation:

$$\text{Activity Time} = \frac{a + 4m + b}{6}$$

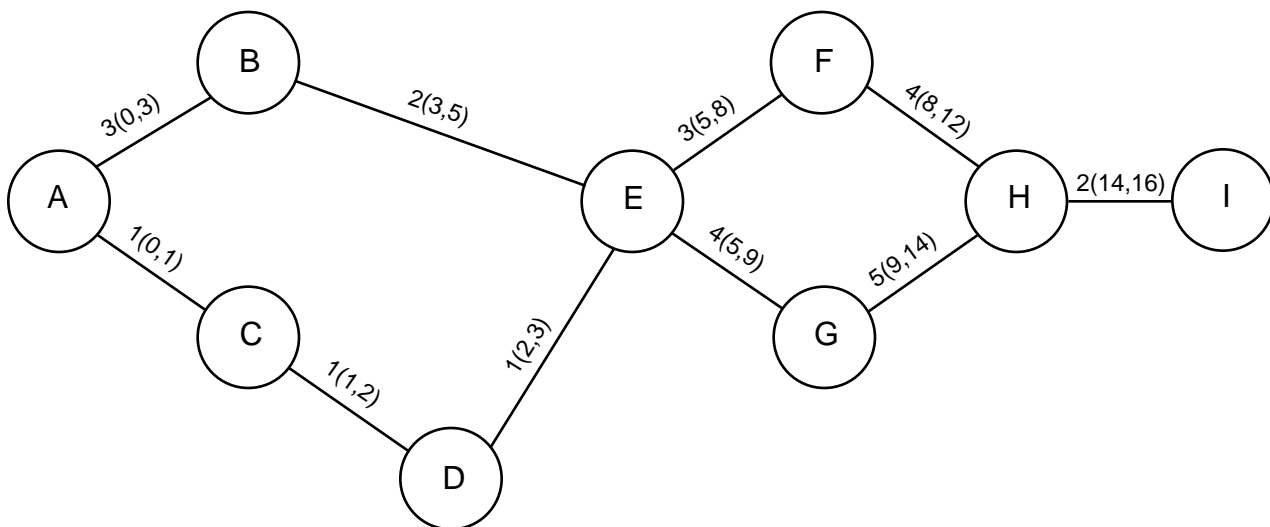
*(Topic continued on next page)*

Program  
Evaluation and  
Review  
Technique  
(continued)

To facilitate analysis and discussion, times for the activities in the network above are delineated in the following table.

ACTIVITIES AND TIMES REQUIRED FOR PROJECT COMPLETION			
Activity	Length (Months)	Activity	Length (Months)
AB	3	EF	3
AC	1	EG	4
BE	2	FH	4
CD	1	GH	5
DE	1	HI	2

**Early Start Times.** If you assume that Event A is project start, you can work across the PERT network and determine how long it will take to complete the project. The times developed by working from the beginning to end are known as the Early Start Times or  $T_e$ .



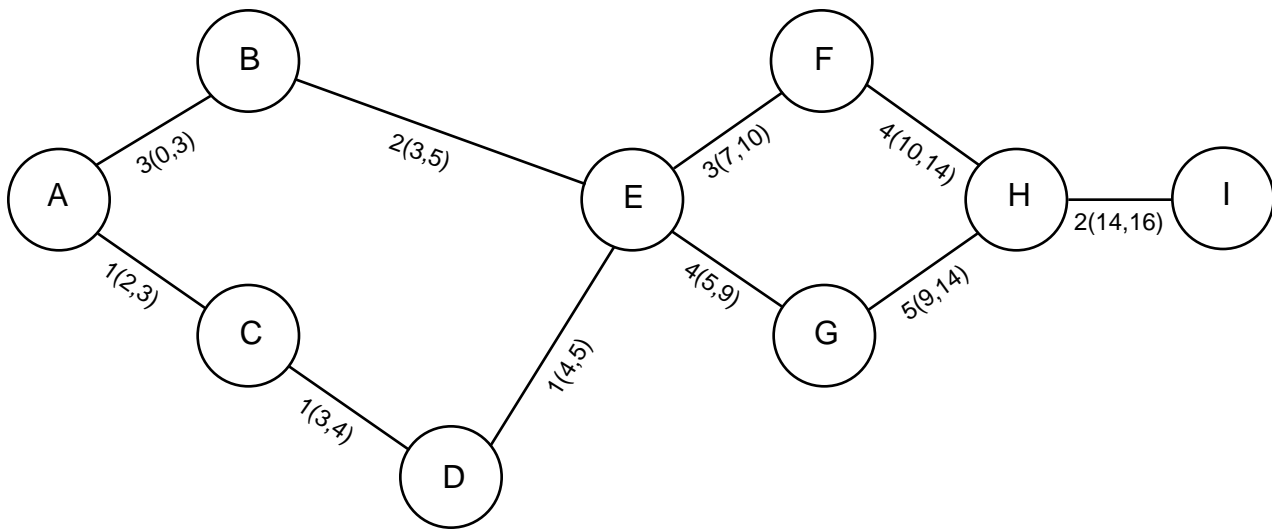
When reading through the above network, note that the  $T_e$  entries are above the activity lines. The format of the  $T_e$  entries is: Length of Time Required to Complete the Activity (Activity Start Time, Start Time Plus Length of Time Required to Complete the Activity). For example, Activity AB reads “3(0,3)”, which means it will take three months to complete the activity, the activity can begin at project start (Month 0), and it will end at the end of Month 3. Activity BE reads “2(3,5)”, which means that it will take two months to complete the activity, the activity can begin at the end of Month 3, and it will end at the end of Month 5.

*(Topic continued on next page)*

Program  
Evaluation and  
Review  
Technique  
(continued)

When more than one activity ends at an event, the earliest start time for the next activity is the latest time coming into the event. For example, DE is projected to be complete at the end of Month 3, but since BE is not projected to be complete until the end of Month 5, any activities beginning at E cannot start until the end of month five.

**Late Start Times.** Based on the PERT network developed so far, the project should take sixteen months to complete. The next step is to determine  $T_l$  or Late Start Times—the latest time that an event can start and still complete the project on time. The  $T_l$  is calculated the same way as  $T_e$  except the calculation is done from the end of the project back to the beginning. The following chart shows the calculations. Note that the  $T_l$  entries are below the activity lines.



The format for  $T_l$  is similar to  $T_e$ . For example, HI reads “2(14,16)”, which means that it will take two months to complete the activity. If the activity is to end at Month 16, it must start no later than Month 14. Similarly, FH reads, “4(10,14)”, which means that it will take four months to complete the activity, and if the activity is to end at Month 14, it must start no later than Month 10.

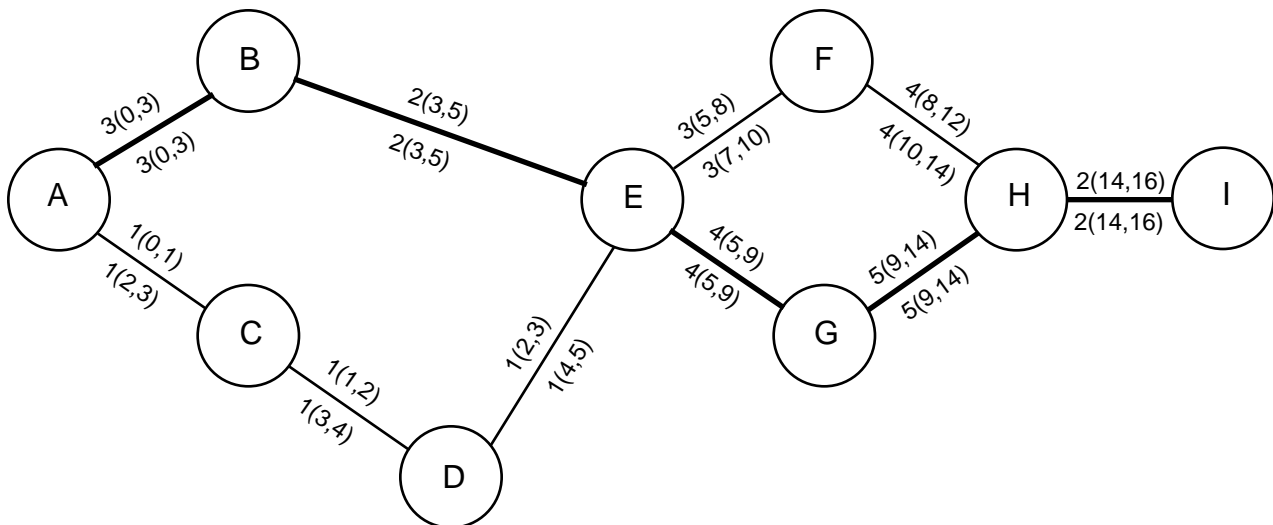
When more than one activity begins at an event, the earliest  $T_l$  is used to calculate the  $T_l$  for activities prior to the event. For example, EF has a  $T_l$  of Month 7 while EG has a  $T_l$  of Month 5. The end time used to calculate BE and DE would be the earliest available  $T_l$  or Month 5.

*(Topic continued on next page)*

Program  
Evaluation and  
Review  
Technique  
(continued)

**Critical Path.** Given the information now available, the Critical Path can now be identified. The critical path is the path through the network that defines the shortest completion time—the path where the difference between  $T_e$  and  $T_l$  (slack time) equals zero. The following table and network show the critical path:

	ACTIVITY									
	AB	AC	BE	CD	DE	EF	EG	FH	GH	HI
$T_e$	0	0	3	1	2	5	5	8	9	14
$T_l$	0	2	3	3	4	7	5	10	9	14
Slack Time	0	2	0	2	2	2	0	2	0	0



**Cost/Schedule Impact.** With the aid of the above table and graph, the critical path is now evident—AB, BE, EG, GH, and HI. Any increase or decrease in the time required to complete any activity on the critical path will increase or decrease the entire project time. For example, if the time required to complete Activity HI grew from two months to three months, then the entire project time would be increased by one month. Conversely, if there is a need to accelerate the project schedule, then management knows which activities can be shortened to shorten the project (critical path activities), and can evaluate the cost/schedule trade-offs.

*(Topic continued on next page)*



Program  
Evaluation and  
Review  
Technique  
(continued)

For activities not on the critical path, changes do not impact the entire project time. For example, if the time required to complete Activity FH grew from four to five months there would be no increase in total project time because no activities beyond Event H can begin until all activities leading up to Event H have been completed. Even if Activity FH did take five months to complete, Activity FH would still be complete a full month ahead of Activity GH, and as noted earlier, no activities beyond Event H can commence until all activities leading up to H have been completed.

If the problems extend the time required to complete a task, the contractor must determine the effect on the remaining schedule. If timely performance is affected, the contractor must take action to identify cost effective ways to shorten the critical path to meet the original schedule. When there is a schedule or cost risk to the Government, Government technical personnel should examine the contractor's analysis and projected action.

---

Progress Review  
Meetings

Regularly scheduled progress review meetings provide an excellent forum for the identification and resolution of contract problems that may affect contract cost and performance. A requirement for meetings can be established as a contract requirement. However, if the contract does not have a requirement for progress review meetings and you feel that such meetings would be beneficial, you can work with the contractor to implement a review program.

Review meetings can involve key members of the contractor and Government contract teams (e.g., program management, contracting, technical, quality assurance, and others). Together, you evaluate overall contract status, including the identification and resolution of problems that may be affecting contract cost or schedule. Usually, the contractor is required to submit a contract status report prior to each review. Those status reports then become the basis for conference analysis and discussion. You should encourage open discussion to identify problems that may affect contract schedule or cost as early as possible so that action can be taken to resolve them and minimize their effect.

You can also encourage or contractually require periodic meetings between cognizant technical personnel and the contractor to discuss technical questions that may affect contract cost and schedule. These technical meetings can be used to supplement or replace the team meetings described above. As a supplement, these meetings can be used to resolve

*(Topic continued on next page)*

Progress Review  
Meetings  
(continued)

technical questions too complicated to be resolved at team meetings. As an alternative to team meetings, these meetings provide a vital forum for the exchange of information and ideas.

Caution all participants in such meetings that contract changes can only be accomplished through written contract modification. Agreements at the meetings cannot change the contract terms.

FAR 1.602-3

- Caution Government personnel not to issue direction to the contractor that is outside their authority under the contract. Remind them that they may be held personally responsible for any unauthorized commitment—constructive change—unless the commitment is ratified by the Government.
- Caution contractor personnel to notify the contracting officer immediately of any action by any Government personnel that they interpret as a change to the contract.

Routine  
Observations by  
Government  
Personnel

Even with all the available reports and management analyses, the first indication of potential cost/schedule problems often comes from routine observations by Government technical personnel. These observations can relate to a number of factors including:

- Selection of work methods that are not suited to the contract effort.
- Problems in completing critical tasks or production processes.
- Inadequate personnel training or experience.
- Labor unrest (i.e., dissatisfaction that could cause a slowdown in operations).
- Inadequate tooling or equipment.
- Excessive work in process inventory.
- Excessive scrap rates.
- Comments about cost/schedule problems made by contractor personnel.

The biggest problem with routine observations as a source of information on potential overruns is that the observations are often not reported to the contracting officer. To benefit from this source of information, you must foster the team concept and make every effort to keep the lines of communication open between yourself, the auditor, and such Government technical personnel as the user, Contracting Officer Representative (COR), Contracting Officer Technical Representative (COTR), Industrial

*(Topic continued on next page)*

Routine  
Observations by  
Government  
Personnel  
(continued)

Representative (QAR). These specialists form the core of the acquisition team. They approach the contract for different perspectives but with one goal, effective and efficient contract performance.

By fostering communication between the members of the team, you can benefit from the picture that is created when different pieces of the puzzle are brought together. On a manufacturing contract, a QAR notes a large number of rejects from a particular process. At the same time, the Industrial Specialist notes that a shop responsible for that process is not meeting schedule commitments. Together, these bits of information paint a picture of a contractor which has significant quality problems that are affecting production and contract cost. On an engineering services contract, the COTR feels that the Contractor Team Leader has only minimal experience in performing the type of work required by the contract. A Government Project Engineer feels that the Team Leader is putting unreasonable constraints on contractor personnel and these constraints are hampering contract operations. It may be that the contractor's failure to hire a qualified Team Leader is putting the contract schedule and cost performance in jeopardy.

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## 2.2 ESTIMATING COST TO COMPLETE

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### Introduction

Whenever you suspect a cost overrun, you should develop an estimate of the cost to complete. In developing your estimate, follow this 5-step procedure:

**Step 1.** Determine the progress toward contract completion to date.

**Step 2.** Determine the cost of the contract work completed to date.

**Step 3.** Determine the reasons for variances from initial estimates.

**Step 4.** Estimate the amount of work remaining to be completed.

**Step 5.** Estimate the cost of the work remaining to be completed.

As you follow these steps, do not hesitate to request support from the Government experts that are available to assist you:

- Assistance from Government technical personnel is essential in analyzing contract progress to date and estimating the amount of effort required to complete the contract.
  - The auditor is the Government expert on contract cost. Audit assistance can be invaluable in verifying the actual contract cost incurred and validating data offered by the contractor to support projections of the cost to complete the contract.
  - The requiring activity can provide valuable insight to the analysis process. As the organization responsible for managing funds, they must be involved in any decision to increase contract price or any decision to modify contract requirements to contain costs.
-

---

## Contract Effort Completed

Normally, the most difficult element of developing an estimate to complete the contract is determining the amount of work completed to date. It is relatively easy to determine the number of hours worked, wages paid, and material purchased, but those are measures of input—not measures of progress toward contract completion. It is not always easy to determine how these inputs have contributed to completing the work required by the contract.

To determine the work completed to date, you must rely on the same sources and types of information identified in Section 2.1.

- Contractually required documents.
- Progress review meetings.
- Contractor production management reports and analyses
- Observation by Government personnel.

Normally, the more detailed the information provided by the data source, the more valuable it is as a basis of estimating the cost to complete the contract. For example, detailed contractor C/SCSC Cost Performance Reports would normally be more valuable than general contract progress reports, because the Budgeted Cost of Work Performed presented in the Cost Performance Reports provides detailed information on the contract. Contract progress reports typically provide a general overview of contract performance and specific detail only on a limited number of special interest items.

As you analyze available information, you should request support from the using activity and Government technical personnel. They are the experts on Government requirements and contractor progress. When you request analysis support, establish an “as of” date for the analysis. That date can then be used for the collection of data on both contract work completed and the cost for completing that work.

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## Cost of Work Completed to Date

FAR 32.503-4(b) FAR 42.803
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In determining the cost of work completed, rely on contractor submissions and audit input. You should request audit review of progress payment requests for fixed-price contracts whenever you believe that a contract will involve a loss. If you have an on-going program of auditing vouchers for cost-reimbursement, time-and-materials, and labor-hour contracts, you should not need to request an additional audit. The necessary information should already be available.

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Cost of Work  
Completed to  
Date  
(continued)

If the auditor has identified deficiencies in the contractor's accounting system, consult with the auditor to determine how those deficiencies may affect the contractor's recording of costs on the contract.

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Determine  
Reasons For  
Variances From  
Initial Estimates

Before you can estimate the cost to complete the contract, you must determine the reason or reasons for the overrun. The overrun could result from many possible reasons, including:

- Conflicting interpretations of contract requirements
- One or more problems that have been solved
- One or more problems that have not been solved
- Generally poor contractor management of contract operations

If the problem or problems have been solved, you can be much more certain of your estimate to complete. If they have not been solved, you must consider possible solutions and related risks as you develop the estimate to complete the contract.

Solicit opinions from the contractor and Government experts concerning the reasons for the overrun. Ask questions such as:

- Why do actual costs differ from the original estimates?
  - Have circumstances outside the contract affected costs? For example, has a major reduction in business volume increased indirect cost rates and inflated contract costs?
  - Does the Government have any responsibility for the increased costs?
  - What can be done by the contractor and/or the Government to bring costs back into line?
-

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**Contract Work  
Remaining**

Once you have determined the amount of contract effort completed to date, it is relatively easy to estimate the tasks that remain to be completed. Again, you should request technical and using activity support as you perform your analysis. If the cost or the schedule for completing the contract are unacceptable, their input will be essential in identifying contract alternatives.

---

**Cost of Work  
Remaining to be  
Completed**

Once you have determined the amount of work remaining and the causes for cost growth, you can estimate the cost to complete the contract. Given this information, estimating the cost to complete the contract is much like estimating the cost of a new contract.

The estimating methods and quantitative techniques that you use will depend on the information available. You can develop estimates using any appropriate method — round table, comparison, or detailed. However, as the contractor progresses toward contract completion, you should expect more reliance on comparison and detailed estimates and less on round table estimates

Consider contract cost history along with other available data in estimate development.

Because of cost or schedule constraints, you may need to develop several cost estimates based on different completion scenarios, such as:

- Complete contract to original contract specification and schedule requirements.
  - Complete the contract to original specification requirements but allow additional time.
  - Complete the contract to original schedule requirements but reduce contract specification.
  - Adjust both the contract specification and schedule requirements.
-

## 2.3 RESOLVING POTENTIAL COST OVERRUNS

Introduction	Once the actual cost of work completed and estimates to complete have been identified, a course of action must be determined.
Fixed-Price Contracts	If you detect an overrun in a fixed-price contract, you should generally monitor contract performance more closely to assure that all work is being accomplished in accordance with contract requirements. You should also consider adjusting the progress payment liquidation rate (See Chapter 8).
Cost-Reimbursement Contracts	<p>For cost-reimbursement contracts, you must determine the most appropriate action considering the Government is responsible for reimbursing the contractor for all allowable costs up to the dollar limits established in the contract. The most common alternatives for action include:</p> <ul style="list-style-type: none"><li>• Investigate further.</li><li>• Provide additional funds/time to complete the contract as is.</li><li>• Redefine the contract effort to fit existing funds.</li><li>• Allow the contract to continue without change.</li><li>• Terminate the contract.</li></ul> <p>As you determine the appropriate course of action, you should consider contract cost and other factors including: contract schedule, probable impact of not completing the contract, alternatives to completing the contract (e.g., terminate and reprocure from another source), availability and sources of funding, and many more.</p>
Investigate Further	<p>In situations where your analysis has identified cost or schedule variances, you may wish to stand pat—take no action until you can obtain additional information. Consider standing pat when:</p> <ul style="list-style-type: none"><li>• You are not sure that the contractor cannot recover from current cost or schedule variances to complete the contract within the original cost and schedule.</li><li>• You are awaiting additional information that may affect contract cost and schedule.</li><li>• A major program management decision is in progress and the decision will affect the action you will take on the contract.</li><li>• Funding is uncertain.</li></ul>

*(Topic continued on next page)*



Investigate  
Further  
(continued)

Regardless of the reason, the contractor needs to be informed of what the Government is doing. Failure to put the contractor on notice can result in the Government assuming additional liability through constructive consent. The following general steps should be considered to put the contractor on notice that the Government intends to stand pat pending further fact-finding:

- Acknowledge that the Government is considering whether to add funds or increase the estimated contract cost.
- Point out that the Contractor is entitled to stop work when the contract dollar limit has been reached.
- Admonish the Contractor that any work done beyond the dollar limit will be at the contractor's own risk.

Provide Extra  
Funds/Time to  
Complete the  
Contract

When additional funding is available, the need exists, and the increase in cost is justifiable, the most logical course of action may be to continue contract performance following the original contract specifications and schedule requirements.

You should consider schedule relief, with or without extra funding, when contract problems have affected the contractor's ability to complete the contract on time.

Consider these general steps when implementing a decision to add funds and/or change the contract schedule:

Step 1 Obtain necessary approvals for your proposed course of action. If you are planning to increase contract cost, establish the amount of additional funds required and obtain a funded purchase request from the requiring activity.

If you are planning to change the contract schedule, obtain concurrence on any proposed delivery date changes from the requiring activity.

Step 2 Meet with the Contractor to review contract requirements and verify the remaining tasks, then negotiate the cost/time changes needed to complete the contract.

Step 3 Negotiate appropriate consideration to the Government for increasing contract cost or revising the contract schedule.; such as, completion with no increase in fee; or, schedule change due to Government caused delay.

Step 4 Prepare and execute a bilateral contract modification.

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### Redefine Contract Requirements to Fit Existing Funds

Redefining contract effort to fit available funds—sometimes called downscoping—can be a viable option for research contracts, as well as supply and service contracts with multiple line items. This option is particularly attractive when additional funds are not available, but it can also be employed when the requiring activity determines that marginal elements of the contract are not worth the additional money.

You must choose between the following methods whenever you consider downscoping contract requirements:

- Deductive contract modification.
- Partial contract termination for convenience.

In making your decision, consider guidance presented in the paragraphs below. However, consult with your agency legal counsel before making a final decision on which approach to follow.

**Deductive Contract Modification.** In general, a deductive modification is appropriate when the redefinition of contract requirements is within the scope of the original contract. You can use a contract modification under the Changes clause to downsize requirements in a variety of ways, including (See Section 3.2):

- Changes in specifications, drawings, or designs for supplies.
- Description of services.
- Method of shipping or packing.
- Place of delivery or performance.

However, none of the Changes clauses available for cost reimbursement contracts provide for changes in quantity. Such changes are normally considered to be outside the scope of the contract.

See Section 3.2 for guidance on pricing contract modifications.

**Partial Termination for Convenience.** In general, a partial termination for convenience is appropriate when the redefinition of contract requirements is not within the scope of the original contract. You should use a partial termination when:

- You are redefining contract requirements by eliminating items from the contract.
- The redefinition of other requirements (e.g., the description of services) is so substantial as to change the scope of the contract.

See Section 3.3 for guidance on pricing contract terminations.

---

### Allow the Contract to Continue Without Change

If you select this alternative, allow the contract to continue until funds expire. Consider this alternative when:

- Additional funds are not available but continued contract performance will benefit the Government.
- Most of the vital elements of the contract will be accomplished within current requirements and funding.
- The cost of contract redefinition or termination will be greater than the cost of simply allowing the contractor to use available funds and then halting contract performance.

If you select this alternative, it is absolutely critical that you:

- Advise the contractor that additional funds will not be added to the contract.
- Advise the contractor that any contract performance beyond current contract dollar limits will be at the contractor's expense.
- Not suggest that the contractor perform beyond current contract dollar limits.

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### Terminate the Contract

If you believe that the Government's best interests will be served by ending the contract immediately, terminate the entire contract for convenience. See Section 3.3 for guidance on pricing terminations for convenience.

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## QUESTIONS AND PROBLEMS

1. To be effective, any method used to monitor contract costs must do what three things?
2. On what types of contracts should you consider using C/SCSC?
3. What is the common name for a Phase Planning chart?
4. Explain how Early Start Times and Late Start Times are used in PERT analysis.
5. Should you rely on contractor notification as your primary means of potential cost overrun identification?
6. What are the steps in estimating a cost to complete?
7. Identify the five common alternatives to consider when confronted with an apparent cost overrun.

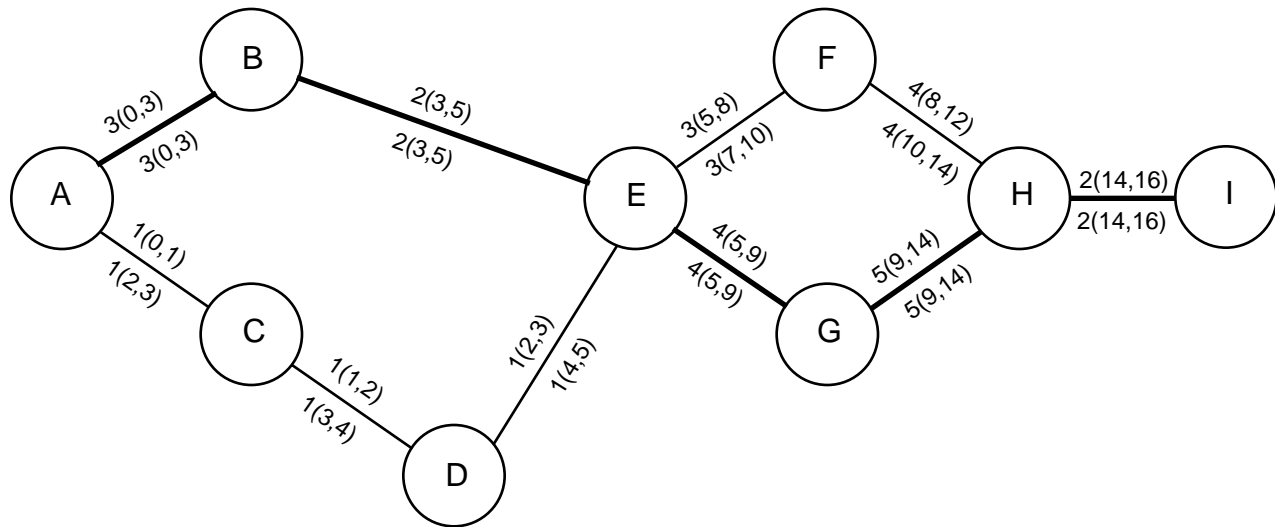
## CSC SYSTEMS

COST PERFORMANCE REPORT WORK BREAKDOWN STRUCTURE								
Contract Budgeted  Baseline \$1.7 Mil	Cumulative Cost To Date (in \$000)					Cost-At-Completion  (in \$000)		
	Budgeted Cost		Actual Cost of  Work Performed	Cost Variance		Budgeted  Cost	Latest Revised Cost Estimate	Variance
WBS Element	Work Scheduled	Work Performe d		Schedule	Cost			
A	100	80	75			250	245	
B	70	80	110			100	130	
C	120	150	135			330	315	
D	200	175	200			250	275	
E	175	175	195			400	420	
F	120	115	140			375	400	
Subtotal	785	775	855			1705	1785	
Mgt. Reserve						50		50
Total	785	775	855			1755	1785	

- Complete the variance columns.
- What do the variances tell you about the contractor's estimate-at-completion?
- What is the relationship between the current estimate at completion and the current actual cost variance? Does this seem reasonable?

## PERT SCHEDULE

To answer the following questions, refer to the demonstration of the PERT Chart below. Consider each of the identified changes individually (i.e., in answering Question 2, do not consider any of the changes proposed in Question 1). How would the project completion schedule be affected:

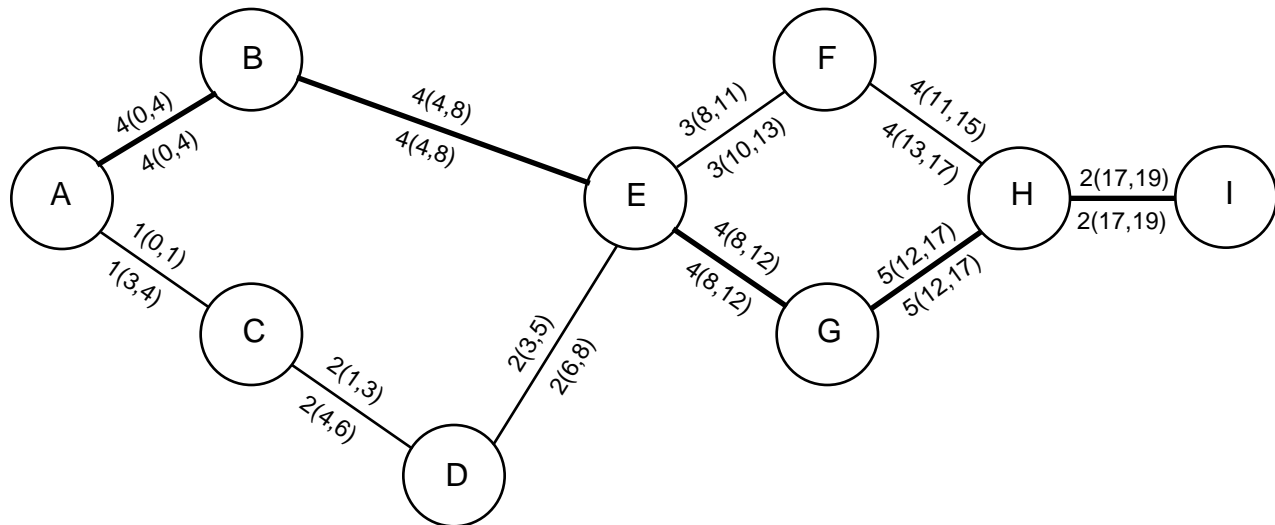


1. If the time required to complete Activity BE increased from 2 months to 4 months?
2. If the time required to complete Activity BE decreased from 2 months to 1 month?
3. If the time required to complete Activity EF increased from 3 months to 4 months,?
4. If the time required to complete Activity EF increased from 3 months to 6 months?
5. If the time required to complete Activity CD increased from 1 months to 3 months?

6. If the time required to complete Activity GH decreased from 5 months to 2 months?
7. If the time required to complete Activity AB decreased from 3 months to 1 month and BE increased from 2 months to 4 months?

## ANALYSIS SERVICES

Analysis Services has a cost-plus-award-fee (CPAF) contract to upgrade contracting operations at your office. The upgrade includes an analysis of critical processes, identification of equipment requirements, and identification of process improvements. The PERT Chart below depicts the original project schedule.



Unfortunately, work has fallen two months behind schedule. Your management considers on-time completion essential to meeting organizational goals within the assigned manpower limits. As a result, you have been instructed to “get the contractor back on track, whatever it costs.”

**Data From Technical Personnel.** Government technical personnel tell you that delays stem from delays in the process analysis phase of the project (Activity AC on the PERT Chart). The analysis was scheduled to take one month. It has already taken three months and \$45,000 (\$30,000 over estimate). If something is not done, it will take three more months to complete.

**Contractor Alternatives.** Analysis Services’ Program Manager recognizes that this task is behind schedule and over cost. He also recognizes the need for timely completion. However, he points out that “There were a lot of unknowns going into this project. That is why we have a CPAF contract. However, we can only put so many people on it.” Accordingly, he has identified three alternatives and the associated costs as follows:

**No Change.** Work will continue with the current staff. He notes that there is an improvement curve and the process is moving faster as workers learn how to find and record the data faster. He believes that the improvement curve is about 85 percent. Additional time required to complete Activity AC would be three months; the additional cost would be \$45,000 (added to the \$45,000 already expended).

**Current Workforce on Overtime.** Current staff will work 10-hour days. That will shorten the additional time to complete Activity AC to 9 weeks, at an additional cost of \$54,000 to complete Activity AC.



**Maximum Effort.** To meet schedule requirements, the Program Manager plans to follow a third alternative, continued overtime throughout the project. Activity AC is currently projected to be completed five months late. This alternative could reduce the completion time for Activity AC and other activities by a total of five months and put the project back on schedule.

Activity	Additional Cost	Months Saved From Current Activity Estimates
AC	\$54,000	.75
AB	0	None Possible
BE	\$12,000	1.00
CD	\$6,000	.50
DE	\$6,000	.50
EF	0	None Possible
EG	\$15,000	1.25
FH	0	None Possible
GH	\$12,000	1.00
Total	\$105,000	5.00

1. Given that funds are available and management insists that the project must be completed on time, which alternative appears best?
2. If the contractor's estimate of the additional cost for each activity is correct, how much extra funding would you need for on-time completion?

## HARRIS MAINTENANCE

Harris Maintenance has a cost-plus-award-fee (CPAF) contract for installation maintenance for Fiscal Year 19X2. On March 10, 19X2, the Contracting Officer's Technical Representative (COTR) came to you with a concern about funding.

Harris's Program Manager told the COTR that he expects the contract to exceed the \$1,800,000 estimated cost. That cost was based on a Government estimate of 18,000 service calls during the year and a contractor cost estimate of \$100 per service call.

Average service call cost is running about \$99 but the number of calls has been steadily increasing since Harris took over the contract on October 1.

MONTH	SERVICE CALLS
March 19X1	1,485
April 19X1	1,528
May 19X1	1,475
June 19X1	1,510
July 19X1	1,470
August 19X1	1,506
September 19X1	1,525
October 19X1	1,475
November 19X1	1,490
December 19X1	1,505
January 19X2	1,520
February 19X2	1,535
Total	18,024

Harris's Program Manager feels that the trend will continue and there will be more than 1,600 service calls per month by the end of the contract. Right now, he projects a \$60,000 overrun.

The COTR is very concerned, because he expects that additional money will be very hard to get.

1. Over the past year, has there been an upward trend in monthly service calls?
  
2. Over the past 5 months, has there been an upward trend in monthly service calls?
  
3. What, if anything, should you do?

**WEBSTER CORPORATION**

Mary Lake, an Industrial Specialist involved in oversight of V-32 System production, has informed you that Webster Corporation is in the midst of a “monster” overrun. She thinks that final manufacturing labor hours may reach 562,000 instead of the 443,000 proposed for the 100 systems required by the contract. Data show that the first 30 units required an average of 5,618.7 labor hours to complete. Projected over 100 units, that is 561,870 labor hours.

Webster’s Program Manager advises you that they are “right on track.” Labor hours per unit are falling rapidly, as the following data demonstrate:

Release 1, 10 units, 68,560 hours

Release 2, 10 units, 53,000 hours

Release 3, 10 units, 47,000 hours

1. Given the above information, how would you estimate the manufacturing labor hours required to complete the contract?
  
  
  
  
  
  
  
  
  
  
2. What is your estimate of the manufacturing labor hours required to complete the contract?

## **CHAPTER 3**

### **Pricing Equitable Adjustments and Settlements**

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## LEARNING OBJECTIVES

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At the end of this  
Chapter

At the end of this chapter, you will be able to:

### **Classroom Learning Objective 3/1**

- Identify issues and factors to consider in making equitable adjustments.

### **Classroom Learning Objective 3/2**

- Prepare the Government's position on an equitable price adjustment for a contract change.

### **Classroom Learning Objective 3/3**

- Describe the process of pricing a termination settlement.

### **Classroom Learning Objective 3/4**

- Describe price adjustments that are possible under the terms and conditions of certain fixed-price contracts.

### **Classroom Learning Objective 3/5**

- Describe the process of definitizing letter contracts and unpriced orders.

### **Classroom Learning Objective 3/6**

- Describe the special pricing considerations in claims resolution.
-

## CHAPTER OVERVIEW

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References

FAR	12.504(b)	43.204(c)(2)	49.402-1	52.216-25
	15.903(f)	49.202	49.402-2	52.233
	Table 15-2	49.203	49.402-6	52.243-1
	16.603	49.206-1	52.212-12	52.243-4
	43.101	49.206-2	52.212-13	52.243-6
	43.102(b)	49.301	52.212-15	52.242-8
	43.103	49.302	52.216-7	
	43.204(b)(5)	49.303	52.216-24	

## CHAPTER INTRODUCTION

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### Defining Equitable Adjustment

The term “equitable adjustment” appears expressly or implicitly several places in the FAR text and several contract clauses (e.g., Changes, Government Property, and Differing Site Conditions). Unfortunately, neither the FAR text nor the contract clauses objectively define what is equitable, so we are left with subjective definitions.

Webster’s Third New International Dictionary defines “equitable” as “characterized by equity...fair to all concerned ... without prejudice, favor, or rigor entailing undue hardship...that can be sustained or made effective in a court of equity or upon principles of equity jurisprudence.”

The definition of “equitable adjustment” in Government contracting has been left to the Courts and Boards of Contract Appeals (BCAs). As suggested by the dictionary definition, the Courts and BCAs have relied on such concepts as “fair and reasonable” and legal precedent.

As a result, there are no hard and fast rules that will always assure agreement between contractors and the Government. There are not even any rules that will always assure success before the Courts and BCAs. However, the material presented in this Chapter offers a framework for you to consider in pricing equitable adjustments.

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### **3.1 ISSUES AND FACTORS TO CONSIDER IN MAKING EQUITABLE ADJUSTMENTS**

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#### **Introduction**

This Section will examine some of the major issues and factors that must be considered in making an equitable adjustment. Because definition of what is equitable has been left to the Courts and Boards of Contract Appeals (BCAs) (e.g., Armed Services Board of Contract Appeals (ASBCA)), the decisions of those bodies have become the guidelines used in making equitable adjustments.

To facilitate the examination, the Section will be divided into three Subsections:

- Equitable Adjustment Concepts.
  - Types of Cost that Can Be Considered in an Equitable Adjustment.
  - Profit/Fee Consideration in Making an Equitable Adjustment.
-



### 3.1.1 Equitable Adjustment Concepts

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#### Introduction

Equitable adjustments are necessitated by some modification of the contract effort. In general, contract modifications can be defined in one of three ways:

- Addition of work to the contract.
- Deletion of work from the contract.
- Substitution of one item of work for another (i.e., an addition with a related deletion).

This modification may come from an overt change in Government requirements or it may come from a change in the conditions surrounding the contract (e.g., differing site conditions or late delivery of Government furnished property).

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#### Objectives in Making an Equitable Adjustment

ASBCA 22251,  
79-1 BCA (1978)

Whatever the reason for the contract modification, the related equitable adjustment should be the difference between the reasonable cost of performing without the addition, deletion, or substitution and the reasonable cost of performing with it.

In other words, the contractor should not be left in a better or worse position on the unchanged work than it was before the change. To attain this objective, the cost of:

- **Added work** should be what it will cost the contractor to perform the additional work.
  - **Deleted work** should be what it would have cost the contractor to perform the contract if the work had not been deleted.
- 

#### Measures of Cost

Several measures of cost have been used by Courts and BCAs in determining equitable adjustments. They will be considered here under four general headings:

- Reasonable cost.
  - Total cost.
  - Jury Verdict.
  - Reasonable value.
-

## Reasonable Cost

Bruce Construction  
v. U.S., 324F. 2d 516  
Ct. Cl. (1963)  
FAR 31.201-3(b)

The reasonable cost approach is normally considered the best approach to pricing equitable adjustments. Under this approach, the amount of the equitable adjustment would be the reasonable cost to perform any added work less the reasonable cost to perform any work deleted. The tests for cost reasonableness are the general tests established in the FAR:

- Is this type of cost generally recognized as necessary in conducting business?
- Is the cost consistent with sound business practice, law, regulation, and the principles of “arms-length” bargaining?
- Does the contractor’s action reflect a responsible attitude toward the Government, other customers, and the public at large?
- Are the offeror’s actions consistent with established practices?

This is generally known as the Bruce Case Rule (or Bruce Rule). It arose from a series of decisions involving the Bruce Construction Corporation. The Bruce case involved a fixed-price construction contract for a number of buildings at Homestead Air Force Base, Florida. A fine-textured building block was required by the original specifications. After Bruce had ordered the building block, the requirement was changed to sand block. The sand block was more brittle than the concrete masonry block generally produced in that area, requiring a higher degree of care in its handling, and entailing a higher production cost. However, the contractor’s supplier furnished the sand block at the same price as the originally-required concrete block.

The issue arose when the contractor claimed \$42,415.98 as the difference between the value of the sand block furnished and the value of the block originally specified, on the grounds that the fair market value of the sand block was greater than the purchase price and that the Government should not benefit from the contractor’s bargain.

*(Topic continued on next page)*

Reasonable Cost  
(continued)

The Corps of Engineers accepted the contractor's contention that fair market value should be the measure of an equitable adjustment, and allowed the difference between the current fair market value of the two types of block. Bruce appealed because the Corps of Engineers denied the larger part of Bruce's overall claim. The Armed Services Board of Contract Appeals (ASBCA) accepted the fair market value measure, but denied the claim on the basis of failure of proof (i.e., the contractor failed to prove that the price paid for the original concrete block was not the fair market value of the substituted sand block at the time of the transaction). The ASBCA held that the fair market value at the time of purchase, not at some subsequent time, should be used in considering the equitable adjustment, and that the fair market value at the time of purchase was not different from that of the substituted block.

Upon further appeal, the Court of Claims held that fair market value was not the proper measure of damages and that the proper measure should be the "reasonable cost" to the contractor.

FAR 31.201-3(a)

However, remember that there is no presumption of reasonableness attached to the incurrence of costs by the contractor. If you challenge a cost after an initial review of the facts, the contractor has the burden to prove that the cost is reasonable.

ASBCA 5100 BCA  
(1959)

In determining whether the cost is reasonable, you should consider the tests of reasonableness above and the contractor's:

- Situation at the time that the cost was incurred.
- Unique business judgment.
- The amount of cost incurred and the actions of the contractor in incurring those costs.

ASBCA 4014 BCA  
(1957)

ASBCA 7650 BCA  
(1963),  
187 Ct. Cl. 597  
(1969),  
NASA 673-8, 76-1  
BCA (1976)

Excess costs may be incurred despite the contractor's good faith efforts. Such costs are generally considered reasonable as long as they do not exceed the costs that a prudent person would incur. For example, if a contractor's management decisions do not require Government approval, the contractor typically has a great amount of discretion before costs are considered unreasonable. However, if the contractor's management decisions do require Government approval and the contractor proceeds without the required approval, the resultant costs may be considered unreasonable.

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## Total Cost

Under the Total Cost approach, the total cost of the change is the difference between the original contract price and the actual cost of performing the contract as changed. The method is widely criticized for two reasons:

- Total costs can include not only the costs properly attributable to the change, but also those which were the fault of the contractor.
- Original contract prices are often based on unrealistically low bids/proposals.

The Total Cost approach has been used when the contractor is known to be competent and there is no better approach available. BCAs have limited its use to circumstances such as the following:

ENGBCA 3745,  
78-1 BCA, (1978)

- There is no suggestion that the original price is not reasonable and realistic. Methods for demonstrating reasonableness of the original price include:
  - Expert testimony that the estimating technique used is reasonable and accurate.
  - Similarity between the contractor's bid and other bids received by the Government.
  - Similarity between the contractor's bid and the Government estimate.

DOTCAB 73-4,  
75-2 BCA, (1975)

- The increased costs resulted solely from the changes and include only those cost increases attributable to Government action/inaction.

ASBCA 19129,  
76-2 BCA, (1976)

- Costs cannot be allocated to specific changes. It is impossible or impractical to segregate costs.
- There is no other way to determine an equitable price.

## Jury Verdict

Where costs cannot be segregated and identified, both the Government and the contractor may have to approach an equitable adjustment on the basis of estimates alone. In cases where equitable adjustments cannot be made from the available cost data, the Court and the BCAs have permitted the use of expert opinion to estimate the costs related to a change. From all of the evidence, including the opinions of qualified experts (e.g., Estimators), the Court or BCA can then determine an equitable adjustment in the same manner as a jury. This method, quite naturally, has become known as the Jury Verdict approach.

*(Topic continued on next page)*

Jury Verdict  
(continued)

ASBCA 19129, 76-2  
BCA (1976)

The basic difference between the Total Cost and Jury Verdict approaches is that, in the latter, costs attributed to the change alone are used while, in the former, total contract costs are used. One severe criticism of the jury verdict method is that despite the narrower area of consideration (i.e., the change alone) the computation still involves considerable speculation.

*Western Contracting Corp. v. U.S.*, 144 Ct. Cl. 318 (1958)  
ASBCA 3073, 59-1  
BCA (1959)

First advanced by the Court of Claims in *Western Contracting Corp.*, this method was later adopted in similar situations by the BCAs. In *Western*, the Court considered the opinions of qualified estimators regarding the reasonableness of the claimed costs, since they could not be substantiated in detail by the contractor's records, and determined the equitable adjustment on the basis of a jury verdict. In *Lake Union Drydock*, the BCA had occasion to consider an adjustment to the contractor due to a delay by the Government in furnishing material for the construction of mine sweepers. The following excerpts from the decision describe a situation under which a jury verdict approach may be employed:

8....The amount of the claim was derived from estimates made by Appellant's experienced shipbuilders. In presenting the claim to the Board, Appellant's principal marine architect and engineer (highly qualified) testified in great detail as to the basis of the estimates and verified exhibits submitted in support thereof. Generally speaking, we find that Appellant's estimators are well qualified to make the estimates upon which this claim is founded and that those estimates were established as being basically sound.

9....On the other hand, the Government did not make a separate estimate of the proper price adjustment due to the delay attributable to it. Instead, in presenting the defense in this appeal, counsel for the Government probed into every element of appellant's estimate.... Thus, as presented we have before us over two thousand pages of transcript of the hearing and over a thousand sheets of exhibits upon which to base a decision which, in most part, is one of the nature of a jury verdict. To discuss the many minor details in controversy seems unnecessary. May it suffice to say here, however, that the measure of the amount of the price adjustment to which appellant is entitled is not an exact science calling for a hard and fast rule, but is a determination based upon the facts and circumstances of this case.

In other decisions, the ASBCA has appeared to place a number of restrictions on the use of the Jury Verdict approach. In general, the Jury Verdict Approach may be used in cases where the following conditions exist:

ASBCA 3842,  
60-1 BCA (1960).

- Each side presents convincing but conflicting evidence as to what the amount of equitable adjustment should be.
- Neither side is entirely correct.
- It is apparent that some allowance by the BCA is proper.

(Topic continued on next page)

Jury Verdict  
(continued)

ASBCA 7202,  
BCA (1962).

- Evidence is sufficient to permit the Government to make some reasonable decision as to a proper allowance.
- There is convincing proof of the nature and kinds of increased costs incurred.

Despite criticism, relatively recent cases attest that the Court of Claims and the Boards have continued to use this approach. The BCAs have also developed their own estimates in a Jury Verdict when presented with widely divergent positions by the parties involved.

---

Reasonable Value

Under the Reasonable Value concept, an equitable adjustment is the reasonable or “fair market” value of supplies or services provided by the contractor. In other words, the contractor should be compensated for what the change should have cost, not necessarily what it actually did cost. Appeals to BCAs and Courts have used the reasonable value or reasonable worth in many cases which involved changes under the contract Changes clause.

The problem in applying this concept is that the parties must apply judgment in determining what the supply or service should have cost. There is no objective measure. Different experts may disagree on what something should have cost. The same person may not be consistent between two similar situations, because other related factors may have changed. Hence, “reasonable value” is normally considered the least desirable approach to determining the equitable adjustment.

To apply this concept, the parties must first compute the reasonable cost to the contractor to perform the unchanged contract.

- If the contractor’s original cost estimate is considered reasonable, it should be used.
- If the contractor’s original cost estimate is considered unreasonable, the equitable adjustment should be based on a reasonable estimate of the original contract cost, rather than the contractor’s actual original cost estimates. In determining reasonable value, estimates can be compared with similar purchases, the Government estimate, or some other measure of reasonableness.

*(Topic continued on next page)*

Reasonable Value  
(continued)

Then the parties must compute the reasonable cost for the contractor to perform the changed contract.

- If the contractor's actual costs, or actual costs plus an estimated cost to complete the contract, are considered reasonable indicators of value, they should be used.
- If the contractor's actual costs, or actual costs plus an estimated cost to complete the contract, are not considered reasonable indicators of value, the equitable adjustment should be based on an estimate of the reasonable value to complete the changed contract . Contractor recovery should be limited to reasonable, necessary, and unavoidable costs.

*S. N. Nielsen  
Company v. U.S.*, 141  
Ct. Cl. 793 (1958)

Many cases illustrate the use of value instead of costs by Courts and BCAs. For instance, in *S. N. Nielsen Company v. U.S.*, an erroneous bid of a subcontractor led the contractor to allocate only \$22,000 to an item of work in its contract. By change order, the Government substituted a less expensive installation, decreasing the cost of the item of work to \$19,000. However, the Government was able to prove that it would have cost the contractor some \$60,000 to perform the item of work if it had not been changed. In a series of appeals, the contracting officer's contention that the Government was entitled to an equitable adjustment in the form of a price decrease of \$41,000 was sustained.

ENGBCA (1959)

Conversely, the *Bruce Construction Corporation* was found to be entitled to the difference in value of more expensive sand block required by a change order, even though the contractor's supplier did not charge for the increased cost of the block. However, this decision was later overturned (prior to the decision by the Court of Claims referenced above).

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### 3.1.2 Types of Cost that Can Be Considered in an Equitable Adjustment

#### Introduction

The type of costs that can be considered under the equitable adjustment are generally defined in the clause under which the adjustment is being made. Carefully read the applicable clause in your contract before you attempt to negotiate an equitable adjustment. Several of the most important clauses will be examined in later sections of this Chapter.

#### Impact Costs; The Ripple Effect

One of the most difficult types of claim to resolve is one based upon impact costs. The theory here is that a major change, or a number of such changes, have a ripple effect upon the remainder of the contract work.

When the government either (1) directs “acceleration” of work (e.g., shortens the delivery schedule) or (2) adds significant work without a concomitant extension of time, the effect may be a loss of efficiency due to abnormally long hours of overtime. This inefficiency may affect management and supervision, as well as direct labor.

When a change compresses the work required on a part of a contract, such compression may affect the scheduling of the work on other parts of the contract. In other words, the disturbance caused by the change can cause a ripple effect of smaller disturbances throughout the contract work.

*T.C. Bateson  
Construction Co. v.  
U.S. 177 Ct.Cl 1094  
(1966)*

Contractors have been permitted to recover for loss of efficiency because of an acceleration requirement. In fact, the Court of Claims took judicial notice of the fact that a 12 hour workday and a six day workweek tends to impair the efficiency of a contractor’s labor. The ASBCA has also determined that such factors as an interruption to the work sequence, lack of a steady flow of work, and the unavoidable use of unskilled labor may seriously affect a contractor’s efficiency. In fact, it appears that the ASBCA uses a figure of 30% as a general experience factor for loss of efficiency during winter weather, with the factor being reduced to 20% where a substantial part of the work is performed indoors.

*ASBCA 20760, 66-1  
BCA (1966)  
Joseph Pickard’s  
Sons v. U.S., 209 Ct.  
Cl. 643 (1976)  
ASBCA 21394, 78-1  
BCA (1978)*

Any claim for loss of efficiency must be supported by proof. However, BCAs appear to be more lenient on the requirement for proof than the Courts. In both, the trend in decisions is to treat such costs as recoverable when they are the direct and natural result of contract changes. The important consideration appears to be the effect of the change(s) involved, not the number of changes.

However, the result has not been the same where the contention was that the number of changes alone should be the criterion for an allowance of impact costs. The rule here seems to be that, rather than the number of changes, the important consideration is the effect of these changes, as a whole, upon the contract.



### Indirect Costs

Direct costs can be identified specifically with a particular final cost objective. Therefore, it should be relatively easy to determine the general effect of Government action on direct costs, even though there may be disagreement over the magnitude of that effect. If the effort required to complete the contract increases, direct costs will increase. If the effort required to complete the contract decreases, direct costs should decrease.

With indirect costs, the general effect may not even be clear. Variable indirect costs will increase (or decrease) in direct proportion to an increase (or decrease) in overall contractor operations. Fixed costs (e.g., rent or taxes) on the other hand, will remain relatively constant regardless of fluctuations in overall contractor operations. It is possible that a Government action could increase direct labor costs without significantly affecting indirect costs, since the fixed elements in overhead may not be affected at all.

What is the proper technique for considering indirect costs when pricing an equitable adjustment?

ASBCA 9454, BCA ,  
(1964)  
ASBCA 8768, 65-1  
BCA 4655 (1965)

BCA decisions do not indicate agreement in how indirect costs should be considered when making an equitable adjustment. In *J. G. Watts Construction Co.*, ASBCA 9454, BCA , (1964), recovery on the basis of the contractor's normal overhead rate was permitted, despite the Government's contention that the adjustment should include only those costs in overhead that were directly increased by the change. Conversely, in *B. J. Lucarelli Co.*, ASBCA 8768, 65-1 BCA 4655 (1965), the board rejected the contractor's claim of normal overhead rate for home office expense, where it was not proved that the added work actually increased such home office expense.

*(Topic continued on next page)*

Indirect Costs  
(continued)

Since there are no clear guidelines, you should follow an approach similar to the approach followed in negotiating a new contract. Normally, you should utilize the same indirect cost rates that you would use if you were negotiating a new contract.

- If the contractor and the Government have negotiated a forward pricing rate agreement (FPRA), and the effect of the Government action is relatively small considering the contractor's total business base, you should use the FPRA rates in negotiating an equitable adjustment.
  - If the contractor and the Government have negotiated a forward pricing rate agreement (FPRA), and the effect of the Government action is relatively large considering the contractor's total business base, you should contact the contracting officer responsible for FPRA negotiation, to discuss the possibility of reopening FPRA negotiations.
  - If there is no forward pricing rate agreement (FPRA), evaluate the proposed rate with audit support. The depth of your evaluation should be tailored considering the contract dollars involved.
  - If the contract modification significantly reduces the required direct effort and related indirect bases, see Section 3.4 for methods of resolving the resulting unabsorbed overhead.
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### 3.1.3 Profit/Fee Consideration in Making an Equitable Adjustment

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#### Introduction

FAR 52.212-12(b)

Before a profit/fee can be allowed as part of an equitable adjustment, it must be clear that the contract permits such an allowance, either expressly or by implication. For example, the Suspension of Work clause specifically excludes profit from any adjustment resulting from a suspension, delay, or interruption of work.

The determination of profit on equitable adjustments resulting from changes decreasing work should be made in the same manner as in equitable adjustments for added work.

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#### Basic Contract Profit/Fee Rate

FAR 15.903(f)

You may use the basic contract profit/fee rate as the prenegotiation objective for an equitable adjustment when the contract change or modification:

- Calls for essentially the same type and mix of work as the basic contract; or
  - Is of relatively small dollar value compared to the total contract value.
- 

#### Major Adjustment Profit/Fee Rate

ASBCA 7899, BCA (1964)  
ENGBCA 3744, 78-1  
BCA, paragraph 13005 (1978)

When an equitable adjustment does not meet one of the criteria identified above, you must develop a profit/fee objective considering the factors identified in FAR Subpart 15.9 and applicable agency supplements.

Where the circumstances merit, BCAs have not been averse to awarding a higher profit or fee than existed in the original contract. For instance, in *American Pipe Steel Corp.*, ASBCA 7899, BCA (1964) the ASBCA sustained an increase in fee from 7 percent to 10 percent on the basis that the change required an increase in the level of effort. To reiterate its position that a profit allowance on changed work need not be limited by the profit factor in the original contract, the ASBCA allowed 10 percent on changed work when the original contract bore a profit factor of 6.92 percent. The BCA in *Carvel Walker*, allowed a 12% profit factor while commenting that 10% had been customarily used in construction contracts.

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Consider Incurred  
Costs in Risk  
Evaluation

When you evaluate risk as part of profit/fee analysis, consider the relationship between incurred costs and profit/fee. If the negotiations are to definitize an undefinitized contract action, substantial costs may have already been incurred. As long as these costs are reasonable, they are not subject to estimating error or any type of speculation. There is no forward pricing risk associated with these costs. In addition, the experience gained in incurring these costs may have reduced the cost risk on the remainder of the contract.

DFARS 215.971-  
3(d)(2)

Follow your agency guidelines in evaluating this risk in profit/fee analysis. For example, if you are assigned to a DoD organization, you must assess the extent that costs have been incurred prior to contract definitization. In making your assessment:

- Consider any reduced risk on the portion of the contract performed before definitization and the portion performed after definitization.
  - Generally, regard the contract type risk to be at the low end of the designated range.
  - If a substantial portion of the costs have been incurred prior to definitization, you may assign a value as low as zero percent to cost risk, regardless of the contract type.
-

## 3.2 PRICING CONTRACT CHANGES

### Introduction

A change is any alteration within the scope of the contract that is made under the authority of the contract Changes clause. As delineated in the table below, the type of changes that can be made under the authority of the Changes clause depends in part on the type of contract involved.

CONTRACT CHANGES UNDER THE CHANGES CLAUSE	
Type of Contract	Changes That Can Be Made
Supply–Fixed-Price or Cost-Reimbursement FAR 52.243-1 FAR 52.243-2	<ul style="list-style-type: none"> <li>• Drawings, designs, or specifications when the supplies to be furnished are to be specifically manufactured for the Government in accordance with the drawings, designs, or specifications.</li> <li>• Method of shipping or packing.</li> <li>• Place of delivery</li> </ul>
Service–Fixed-Price or Cost-Reimbursement FAR 52.243-1 FAR 52.243-2	<ul style="list-style-type: none"> <li>• Description of services to be performed.</li> <li>• Time of performance (i.e., hours of the day, days of the week, etc.).</li> <li>• Place of performance of services.</li> </ul>
Time-and-Material or Labor Hour FAR 52.243-3	<ul style="list-style-type: none"> <li>• Method of shipping or packing.</li> <li>• Place of delivery</li> <li>• Amount of Government-furnished property</li> </ul>
Architect-Engineer or Other Professional Services Contracts– Fixed Price FAR 52.243-1	<ul style="list-style-type: none"> <li>• Changes within the general scope of the contract.</li> </ul>
Transportation Services –Fixed Price FAR 52.243-1	<ul style="list-style-type: none"> <li>• Specifications.</li> <li>• Work or services.</li> <li>• Place of origin.</li> <li>• Place of delivery.</li> <li>• Tonnage to be shipped.</li> <li>• Amount of Government-furnished property.</li> </ul>
Research and Development–Fixed- Price or Cost- Reimbursement FAR 52.243-1 FAR 52.243-2	<ul style="list-style-type: none"> <li>• Drawings, designs, or specifications.</li> <li>• Method of shipping or packing.</li> <li>• Place of inspection, delivery, or acceptance.</li> </ul>

*(Table continued on next page)*

## Introduction

(continued)

Construction or Dismantling, Demolition, or Removal of Improvements—Fixed-Price FAR 52.243-4	<ul style="list-style-type: none"> <li>• Specifications (including drawings and designs).</li> <li>• Method or manner of performance of the work.</li> <li>• Government-furnished facilities, equipment, materials, services, or site.</li> <li>• Acceleration of performance of the work.</li> </ul>
Construction—Cost-Reimbursement FAR 52.243-2	<ul style="list-style-type: none"> <li>• Plans and specifications or instructions incorporated in the contract.</li> </ul>
Facilities—Cost-Reimbursement FAR 52.243-2	<ul style="list-style-type: none"> <li>• Facilities or work described in the contract.</li> </ul>

## Initiation of Changes

You can implement contract changes, initiated by the Government or the contractor, under the Changes clause. For example, you can change the contract specifications because of a change in Government requirements or because of a product improvement recommended by the contractor.

## Unilateral and Bilateral Modifications

There are two basic types of contract modifications—unilateral and bilateral:

FAR 43.103

FAR 43.101  
FAR 52.243-1

- Unilateral modifications are signed only by the contracting officer. Unilateral modifications under the Changes clause are known as change orders. You can use a change order to direct the contractor to modify the contract under the changes clause. The contractor is required to continue performance of the contract as changed, and can request an equitable adjustment within the period prescribed in the contract.
- Bilateral modifications are signed by both the contractor and the contracting officer. You can use a bilateral modification to:
  - Define all aspects of the change, including an equitable adjustment, at the time the change is made; or
  - Incorporate a negotiated equitable adjustment that results from the issuance of a change order.

## Preference for Bilateral Modifications

FAR 43.102(b)

FAR directs you to price contract modifications, including changes that could be issued unilaterally, before their execution if it can be done without affecting the interest of the Government. If a significant cost increase could result from the contract modification and time does not permit negotiation of a price, negotiate a not-to-exceed price when possible.

### Costs to Consider

FAR 52.243-1  
FAR 52.243-2  
FAR 52.243-3  
FAR 52.243-4

Carefully read the Changes clause in your contract before you attempt to negotiate an equitable adjustment. The Changes clauses for fixed-price supply and service contracts, cost-reimbursement supply and service contracts, time-and-materials/labor-hour contracts, and fixed-price construction contracts all include words similar to the following:

If any such change causes an increase or decrease in the cost of, or the time required for, performance of any part of the work under this contract, whether or not changed by the order, the Contracting Officer shall make an equitable adjustment....

**Costs of Changed Work.** You can negotiate an adjustment in both the direct and indirect costs of changed work.

**Costs Effect on Unchanged Work.** You can negotiate an equitable adjustment for any increased costs for unchanged work incurred as a result of the change.

**Costs of Preparing a Request for Equitable Adjustment.** Changes clauses require the contractor to make a request for equitable adjustment. Since the request is required by the contract, the costs related to preparation are allowable.

FAR 52.243-4

**Costs Before Written Notice in Construction.** The Changes clause for fixed-price construction contracts is unique in that it includes a provision allowing you to consider costs related to changes other than written contract modifications signed by the contracting officer. Other written or oral orders (including direction, instruction, interpretation, or determinations) may be considered as changes under the Changes clause provided that the contractor gives you written notice stating both of the following:

- The date, circumstances, and source of the order.
- That the contractor regards the order as a change order.

*(Topic continued on next page)*

Costs to Consider  
(continued)

Under this clause, you can make an equitable adjustment for costs related to a change that were incurred even before the contractor provided written notice of the change:

- Unless the request is based on defective specifications, do not make any adjustment for change-related costs incurred more than 20 days before the contractor provided written notice.
- If the request for adjustment is based on defective specifications and the Government is responsible, include in the equitable adjustment any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.”

Costs NOT to Consider

Northern Helex Co.  
v. U.S., 207 Ct. Cl.  
862 (1975)

Do not consider the following costs when making an equitable adjustment:

**Damages on Other Contracts.** Cost increases or decreases for other contracts that result from the change should not be considered in the equitable adjustment.

**Costs Before Contracting Officer Notice.** Except for construction (see above), the Changes clauses do not provide for adjustments prior to a notice from the contracting officer.

FAR 31.205-31

**Claim Preparation Costs.** Professional and consulting services costs are unallowable, when incurred in the prosecution of a claim against the Government. As a result, any costs incurred after your final decision regarding the request for equitable adjustment are unallowable.

FAR 31.205-20

**Costs of Financing Work Under the Change.** All interest costs are unallowable under an equitable adjustment. As a result, the costs of financing a contract change are unallowable. However, contract changes can require substantial contractor funding. You can consider that investment under contract type risk.

However, if the request for equitable adjustment becomes a claim under the Contract Disputes Act and wins a favorable decision, the Government must pay interest from the date that the contractor furnishes a certified claim to the contracting officer.

Profit or Fee

As delineated in Section 3.1.3, equitable adjustments should include profit/fee unless specifically precluded by the contract.



Change Order Accounting

FAR 52.243-6

If the contract includes the Change Order Accounting clause, you may require change order accounting whenever the cost of a change or a series of related changes exceeds \$100,000. Under change order accounting, the contractor must maintain separate accounts, by job order or other suitable accounting procedure, of all incurred segregable direct costs (less allocable credits) for work, both changed and unchanged, allocable to the change. The contractor must maintain the accounts until the parties agree to an equitable adjustment or the matter is conclusively disposed of in accordance with the Disputes clause.

If the contract does not include the Change Order Accounting clause, assure that the contractor knows that accurate records of actual costs can be extremely valuable in pursuing any request for equitable adjustment.

Contractor Data Required to Support a Proposed Equitable Adjustment

Require a contractor submitting a request for equitable adjustment to submit any cost information needed to evaluate the request. See the table below.

COST OR PRICING DATA REQUIREMENTS	
If you expect the proposal for equitable adjustment (increases plus decreases) will exceed the mandatory threshold	Require cost or pricing data with the intent of obtaining certification.
Will not exceed the mandatory threshold and you believe that you will need information on elements of cost to determine price reasonableness	Request partial or limited data.*
Will not exceed the mandatory threshold and you believe that you will not need cost information to determine price reasonableness	Do not require cost or pricing data or partial or limited data. Instead, rely on price analysis alone.

\*However, consider requiring certified cost or pricing data, if:

- The contractor has been the subject of recent or recurring, and significant findings of defective pricing.
- Currently has significant deficiencies in its cost estimating systems
- Has recently been indicted for, convicted of, or the subject of an administrative or judicial finding of fraud regarding its cost estimating systems or cost accounting practices.

*(Topic continued on next page)*

Contractor Data  
Required to  
Support a  
Proposed  
Equitable  
Adjustment  
(continued)

FAR Table 15-2

If you require cost or pricing data or partial or limited data, advise the contractor of type of data and the format required. Normally, you should require the following information by cost element:

INFORMATION REQUIRED TO SUPPORT PROPOSED EQUITABLE ADJUSTMENT	
Require the following for each cost element...	This should include...
Estimated cost of all work deleted.	<ul style="list-style-type: none"> <li>• Current estimates of what the cost would have been to complete deleted work not yet performed, and</li> <li>• The cost of deleted work already performed.</li> </ul>
Cost of deleted work already performed.	<p>The incurred cost of deleted work already performed, actually computed if possible, or estimated in the contractor's accounting records. The contractor should:</p> <ul style="list-style-type: none"> <li>• Attach a detailed inventory of the work, materials, parts, components, and hardware already purchased, manufactured, or performed and deleted by the change, indicating the cost and proposed disposition of each line item.</li> <li>• Indicate any desire to retain the items above or any portion of them, including the amount offered for them.</li> </ul>
Net cost to be deleted.	The net cost of all deleted work less the cost of deleted work already performed.
Cost of work added.	<p>The contractor's estimate for the cost of work added by the change.</p> <ul style="list-style-type: none"> <li>• When nonrecurring costs are significant, or if you specifically request it, the contractor should provide a full identification and explanation of these costs.</li> <li>• When any of the costs have already been incurred, the contractor should explain them in a supporting schedule.</li> </ul>
Net cost of the change.	The difference between the cost of work added and the net cost of work deleted.
Reference to supporting data.	Identification of any supporting information provided with the proposal.

*(Topic continued on next page)*

Contractor Data  
Required to  
Support a  
Proposed  
Equitable  
Adjustment  
(continued)

Evaluation of Equitable Adjustment Proposal	
Step	Action
1	Assure that the contractor has provided any required cost or pricing data or partial or limited data in a format suitable for analysis.
2  FAR 43.204 (b)(5)	Request technical and/or audit support required to support analysis of the proposal. If you need field pricing support, ensure that your request includes a list of any significant contract events which may aid in the analysis of the proposal including: <ul style="list-style-type: none"> <li>• Date and dollar amount of the contract award and/or modification.</li> <li>• Date of submission of the initial contract proposal and dollar amount.</li> <li>• Performance dates as scheduled at date of award and/or modifications.</li> <li>• Actual performance dates.</li> <li>• Date entitlement to an equitable adjustment was determined.</li> <li>• Dates of any pertinent Government actions or other key events during contract performance which may have an impact on the contractor's request for equitable adjustment.</li> </ul>
3	After technical and/or audit support are received, determine if fact-finding is required to support resolution of identified issues. In determining the need for fact-finding, consider the: <ul style="list-style-type: none"> <li>• Complexity of the issues involved.</li> <li>• Technical complexity of the requirement.</li> <li>• Dollars involved.</li> </ul>
4	Establish your negotiation objective based on the contractor's proposal and other available information. Document and coordinate your objective in accordance with agency procedures. Depending on the circumstances, your objective may be an increase, a decrease, or no change in contract price.
5	Conduct negotiations. During negotiations remind the contractor of the importance of providing current, accurate, and complete data, especially when the contractor is incurring contract costs while negotiations are in progress.
6  FAR 43.204 (c)(2)	Use a bilateral contract modification to document agreement on an equitable adjustment. If the modification definitizes a change order, assure that the modification includes a release similar to the following: <p style="text-align: center;"><b>CONTRACTOR'S STATEMENT OF RELEASE</b></p> <p>In consideration of the modification(s) agreed to herein as complete equitable adjustment(s) for the Contractor's _____(describe)_____ "proposal(s) for adjustment," the Contractor hereby releases the Government from any and all liability under this contract for further equitable adjustments attributable to such facts and circumstances giving rise to the "proposal(s) for adjustment" (except for _____).</p>
7	If you cannot reach agreement on a fair and reasonable price, issue a unilateral change administratively changing the contract price to a figure that you can support as being fair and reasonable. Advise the contractor that it has the right to pursue a claim under the Disputes clause.

### 3.3 PRICING TERMINATION SETTLEMENTS

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#### Introduction

The Government can terminate contracts prior to completion for the convenience of the Government or because of the default of the contractor. Termination settlements can be very complex for a variety of reasons. One reason is the different rules for each type of contract termination. For fixed-price terminations for convenience, you may also need to negotiate an additional equitable price adjustment for the continued work. Accordingly, this section is divided into five parts:

- Pricing Fixed-Price Termination for Convenience Settlements
  - Pricing Fixed-Price Termination for Default Settlements
  - Pricing Cost-Reimbursement Termination for Convenience Settlements
  - Pricing Cost-Reimbursement Termination for Default Settlements
  - Pricing an Equitable Adjustment for the Continued Portion of a Fixed-Price Contract
-

### 3.3.1 Pricing Fixed-Price Termination for Convenience Settlements

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#### Introduction

In a fixed-price contract termination for convenience, the contractor is entitled to claim:

- All its costs for accomplished contract performance.
- A reasonable profit on accomplished contract performance.
- Costs incurred administering the contract termination.

The contractor is not entitled to claim:

- Anticipated profit on the work not completed.
  - Damage outside the contract (e.g., increased costs on other contracts).
- 

#### Termination Proposal Expenses

The following types of proposal preparation expenses are allowable for a termination for convenience:

- Costs required to prepare and present the settlement proposal and supporting data, such as the following:
    - Accounting, legal, and clerical activities.
    - Order cancellation costs.
    - Subcontract settlements.
  - Costs related to termination inventory disposition, such as:
    - Storage.
    - Transportation.
    - Protection.
    - Disposition.
    - Maintaining contract inventory between the dates of an erroneous termination for default and conversion to a termination for convenience.
  - Indirect costs related to settlement preparation and disposition of termination inventory, such as:
    - Payroll taxes.
    - Fringe benefits.
    - Occupancy costs.
    - Immediate supervision.
-

General Proposal  
Requirements

FAR 49.206-1

Subject to the provisions of the termination clause, the contractor should promptly submit a settlement proposal for the amount claimed because of the termination. Settlement proposals:

- Must be submitted within one year from the effective date of the termination, unless you extend the period.
  - May include termination charges from two or more divisions or units of the prime contractor under a single prime contract consolidated and included in a single settlement proposal.
  - Must cover all cost elements including settlements with subcontractors and any proposed profit. With your consent, proposals may be filed in successive steps covering separate portions of the contractor's costs. Such interim proposals shall include all costs of a particular type, unless you authorize otherwise.
  - Must be on the forms prescribed in FAR 49.602 unless the forms are inadequate for a particular contract.
  - Must be made in reasonable detail and supported by adequate accounting data. However, you must not require contractors to maintain unduly elaborate cost accounting systems merely because their contracts may be terminated.
  - Actual, standard (appropriately adjusted), or average costs may be used in preparing settlement proposals if they are determined under generally recognized accounting principles consistently followed by the contractor.
  - When actual, standard, or average costs are not reasonably available, estimated costs may be used if you approve the method of arriving at the estimates.
  - Must include a SF 1439, Schedule of Accounting Information, unless the proposal is less than \$10,000.
  - That would normally be included in a single settlement proposal (e.g., those based on a series of separate orders for the same item under one contract), should be consolidated whenever possible and not divided to bring them below \$10,000.
  - Must be made using the Inventory Basis or Total Cost Basis described below, unless the contractor obtains prior approval from the chief of the contracting or contract administration office.
- 

FAR 49.206-2(c)

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Inventory Basis

FAR 49.206-2(a)

The inventory basis is normally the preferred basis for settlement pricing. Under this basis, the contractor shall claim only costs chargeable or allocable to the terminated portion of the contract, and shall itemize separately the following costs:

- Metals, raw materials, purchased parts, work in process, finished parts, components, special tooling and special test equipment at purchase or manufacturing cost;
- Charges such as engineering costs, initial or start-up costs, and general and administrative expenses;
- Costs of settlements with subcontractors;
- Settlement expenses; and
- Other properly allocable charges.

An allowance for profit (or adjustment for loss) must be made to complete the gross settlement proposal. Deduct all unliquidated advance and progress payments and all disposal and other credits known when the proposal is developed.

---

Total Cost Basis

FAR 49.206-2(b)

You may approve contractor use of the Total Cost Basis of settlement pricing, when it is not practical to use the inventory basis or its use will unduly delay settlement. Examples of situations where use of the Total Cost Basis may be permitted include situations where:

- Production has not begun and the accumulated costs represent planning and preproduction (get ready) costs.
  - The contractor's accounting system will not readily lend itself to the establishment of unit costs for work in process and finished products.
  - The contract does not specify unit prices.
  - The termination is a complete termination of a letter contract.
-

Total Cost Basis  
(continued)

**Complete Termination.** When the Total Cost Basis is used for a complete termination, the contractor must:

- Itemize all costs incurred under the contract up to the effective date of the termination.
- Add the costs of settlements with subcontractors and applicable settlement expenses.
- Make no allowance for profit or adjustment for loss.
- Deduct the contract price for all end items which have been or are to be delivered and accepted.
- Deduct all unliquidated advance and progress payments, as well as disposal and other credits known when the proposal is submitted.

**Partial Termination.** When the total cost basis is used under a partial termination, the contractor must not submit the settlement proposal until completion of the continued portion of the contract. The contractor must prepare the settlement proposal in accordance with the procedures for a complete termination except that all costs incurred to the date of completion of the continued portion of the contract must be included.

**Construction or Professional Services Contracts.** The total cost basis must be used for complete terminations of construction or lump-sum professional services contracts. However, instead of deducting the price of finished product invoiced or to be invoiced, the contractor must reduce the gross amount of the settlement by the total of all progress and other payments.

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Profit

FAR 49.202

You must allow profit on preparations made and work accomplished by the contractor on the terminated portion of the contract but not on settlement expenses.

Do not:

- Allow anticipatory profits on work not accomplished or consequential damages.
- Base profit for contractor effort in settling subcontractor proposals on the dollar amount of the subcontract settlement, but you should consider the contractor's efforts when determining the overall profit rate allowed.
- Allow the contractor profit for material or services that, as of the effective date of the termination, had not been delivered by a subcontractor, regardless of the completion percentage.
- Allow on construction contract terminations, profit on the prime contractor's settlements with construction subcontractors for materials on hand and for preparations made to complete the work.

Do consider the following factors:

- The extent and difficulty of the work done by the contractor as compared with the total work required by the contract (engineering estimates of the percentage of completion ordinarily should not be required, but if available should be considered).
- Engineering work, production scheduling, planning, technical study and supervision, and other necessary services.
- Efficiency of the contractor, with particular regard to:
  - Attainment of quantity and quality production.
  - Reduction of costs.
  - Economic use of materials, facilities, and manpower.
  - Disposition of termination inventory.
- Amount and source of capital and the extent of risk assumed.
- Inventive and developmental contributions, and cooperation with the Government and other contractors in supplying technical assistance.
- Character of the business, including the source and nature of materials and the complexity of manufacturing techniques.

*(Topic continued on next page)*

Profit  
(continued)

- The rate of profit that the contractor would have earned had the contract been completed.
- The rate of profit both parties contemplated at the time the contract was negotiated.
- Character and difficulty of subcontracting, including selection, placement, and management of subcontracts, and effort in negotiating settlements of terminated subcontracts.

Do allow profit on the prime contractor's settlements with construction subcontractors for actual work in place at the job.

Adjustments For  
Loss on the  
Terminated  
Contract

FAR 49.203

If the contractor was performing the contract at a loss, the contractor should not be able to “get well” because of the Termination for Convenience.

**Loss on Inventory Basis Settlement.** If the termination is being settled using the Inventory Basis, calculate the Net Settlement using the following formula, less all disposal credits and unliquidated advance and progress payments:

$$S = E + D + \left( R \times \frac{P}{C + F} \right)$$

When:

S = Net Settlement

E = Settlement Expenses—negotiated or determined

D = Contract Price, as adjusted, for acceptable completed end items

R = Remainder of the settlement amount otherwise agreed upon or determined

P = Contract Price

C = Incurred Costs before contract termination

F = Estimated Cost to Complete the contract

Note: The expression  $\frac{P}{C + F}$  is referred to as the Loss Ratio

*(Topic continued on next page)*

Adjustments For  
Loss on the  
Terminated  
Contract  
(continued)

**Example:**

Contract Price:	\$700,000
Settlement Expenses	\$ 7,000
Price of Items Delivered and Accepted	\$ 50,000
Remainder of Settlement	\$350,000
Costs Incurred Prior to Termination	\$400,000
Estimate to Complete	\$450,000

$$\begin{aligned}
 S &= E + D + \left( R \times \frac{P}{C + F} \right) \\
 &= \$7,000 + \$50,000 + \left( \$350,000 \times \frac{\$700,000}{\$400,000 + \$450,000} \right) \\
 &= \$7,000 + \$50,000 + (\$350,000 \times .82) \\
 &= \$7,000 + \$50,000 + \$287,000 \\
 &= \$344,000
 \end{aligned}$$

**Loss on Total Cost Basis Settlement.** If the termination is being settled using the Total Cost Basis, calculate the Net Settlement using the following formula, less all disposal credits, unliquidated advance and progress payments, and all other amounts previously paid under the contract:

$$S = E + \left( R \times \frac{P}{C + F} \right)$$

When:

- S = Net Settlement
- E = Settlement Expenses—negotiated or determined
- R = Remainder of the settlement amount otherwise agreed upon or determined (includes price of items delivered)
- P = Contract Price
- C = Incurred Costs before contract termination
- F = Estimated Cost to Complete the contract

*(Topic continued on next page)*

Adjustments For  
Loss on the  
Terminated  
Contract  
(continued)

Example using the same data used in the Inventory Basis example above:

Contract Price:	\$700,000
Settlement Expenses	\$7,000
Remainder of Settlement <i>(including price of items delivered and accepted)</i>	\$400,000
Costs Incurred Prior to Termination	\$400,000
Estimate to Complete	\$450,000

$$\begin{aligned}
 S &= E + \left( R \times \frac{P}{C + F} \right) \\
 &= \$7,000 + \left( \$400,000 \times \frac{\$700,000}{\$400,000 + \$450,000} \right) \\
 &= \$7,000 + (\$400,000 \times .82) \\
 &= \$7,000 + \$328,000 \\
 &= \$335,000
 \end{aligned}$$

**Special Notes.** Note that, using the same settlement data, the Total Cost Basis will result in a lower Net Settlement. Also note that it is to the contractor's advantage to understate the estimate to complete, to avoid application of the Loss Ratio and possibly earn profit. You must therefore assure that the estimate to complete is reviewed carefully to ensure that it is reasonable and accurately reflects the current contract status.

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### 3.3.2 Pricing Fixed-Price Termination for Default Settlements

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#### Introduction

FAR 49.402-1  
FAR 52.249-8

When the contract contains the Default clause, the Government has the right, subject to the notice requirements of the clause, to terminate the contract completely or partially for default if the contractor fails to:

- Make delivery of the supplies or perform the services in the time specified by the contract.
  - Perform any other provision of the contract.
  - Make progress and that failure endangers performance of the contract.
- 

#### Government Rights Under a Termination for Default

FAR 49.402-2

Under a fixed-price contract Termination for Default:

- The Government is not liable for the contractor's costs on undelivered work.
  - The Government is entitled to the repayment of advance and progress payments, if any, applicable to the terminated portion of the contract.
  - The Government may elect to require the contractor to transfer title and deliver to the Government completed supplies and manufacturing materials as directed by the contracting officer.
  - Do not use the Default clause as authority to acquire any complete supplies or manufacturing materials when the Government has title under some other provision of the contract.
  - Only acquire manufacturing materials under the Default clause for furnishing to another contractor, after considering the difficulties the other contractor may have in using the materials.
  - The contractor is liable to the Government for any excess costs incurred in acquiring supplies or services similar to those required by the contract terminated for default.
  - The contractor is liable to the Government for any other damages, whether or not repurchase is affected.
-

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Payments to the Contractor

FAR 52.249-8(f)

Under a fixed price Termination for Default, the Government must:

- Pay the contract price for completed supplies delivered and accepted.
  - Negotiate an agreement on the amount of payment for manufacturing materials (if any) that the contracting officer has directed the contractor to deliver to the Government under FAR 52.249-8(e)
  - Negotiate an agreement on the amount of payment to protect and preserve property in which the Government has an interest, as directed by the contracting officer.
- 

Protect the Government From Overpayment

Protect the Government from overpayment that might result from failure to provide for the Government's potential liability to laborers and material suppliers for lien rights outstanding against the completed supplies or materials after the Government has paid the contractor for them. To accomplish this, take one or more of the following actions before paying for the supplies or materials.

- Ascertain whether payment bonds, if any, provided by the contractor are adequate to satisfy all lienors' claims or whether it is reasonable to obtain similar bonds to cover outstanding liens.
  - Require the contractor to furnish appropriate statements from laborers and material suppliers disclaiming any lien rights they may have to the supplies or materials.
  - Obtain appropriate agreement by the Government, the contractor, and lienors ensuring release of the Government from any potential liability to the contractor or lienors.
  - Withhold from the amount due for the supplies or materials any amount that you determine is necessary to protect the Government's interest, but only if the above measures cannot be accomplished or are considered inadequate.
  - Take other appropriate action considering the circumstances and the degree of contractor solvency.
-

Repurchase  
Against the  
Contractor's  
Account

FAR 49.402-6

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When supplies or services are still required after contract termination, repurchase the same or similar supplies of services against the contractor's account as soon as practicable. Repurchase at as reasonable a price as practicable, considering the quality and delivery requirements.

If you repurchase at a price over the price of the supplies or services terminated, after completion and final payment of the repurchase contract, make written demand on the contractor for the total amount of the excess, giving consideration to any increases or decreases in other costs such as transportation, discounts, etc.

If the contractor fails to make payment, follow the procedures of FAR Subpart 32.6 for collecting contract debts due the Government.

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### 3.3.3 Pricing Cost-Reimbursement Termination for Convenience Settlements

#### Introduction

FAR 49.301

Termination clauses for cost-reimbursement contracts provide for the settlement of costs and fee, if any. Consult the contract clauses governing costs to determine what costs are allowable.

#### Complete Termination–Cost Vouchers

FAR 49.302

When the contract is completely terminated, the contractor may continue submitting cost vouchers using the Standard Form 1034, Public Voucher for Purchases and Services Other than Personal, until the last day of the sixth month following the month in which the termination is effective.

The contractor may elect to stop using vouchers at any time during the 6-month period.

- If the contractor has vouchered all costs within the 6-month period, it may submit a proposal for fee using a SF 1437, Settlement Proposal for Cost-Reimbursement Type Contracts, or a letter appropriately certified.
- The contractor must submit a substantiated proposal for fee within one year from the effective date of termination, unless you extend the period for receipt.

#### Complete Termination–Settlement Proposal

FAR 49.303

When the submission of vouchers has stopped, the contractor must submit all unvouchered costs and the proposed fee in the form of a settlement proposal. The proposal must be submitted within one year from the effective date of termination, unless you extend the period for receipt. The proposal must not include costs that have been:

- Finally disallowed.
- Previously vouchered and formally questioned by the Government but not yet resolved.

#### Complete Termination–Proposal Audit

FAR 49.303-2

Refer the proposal to the cognizant auditor for review. However, if the settlement proposal is limited to an adjustment of fee, no referral is required.



Complete  
Termination–  
Indirect Cost  
Adjustment

FAR 49.303-3  
FAR 52.216-7

If the contract contains the clause, Allowable Cost and Payment, and it appears that adjustment of indirect costs will unduly delay final settlement, you may (after obtaining information from the cognizant auditor) agree with the contractor to:

- Negotiate the amount of indirect costs for the contract period for which final indirect cost rates have not been negotiated, or to use billing rates as final rates for the period if the billing rates appear reasonable. If you use this method, the contractor must eliminate the indirect cost and the related direct costs on which it was based from the total pool and base used to compute indirect costs for other contracts performed during the accounting period.
- Reserve any indirect cost adjustment in the final settlement agreement, pending establishment of negotiated rates.

Complete  
Termination–Final  
Settlement

FAR 49.303-4

Proceed with the settlement and execution of a settlement upon receipt of the audit report, if applicable, and the contract audit closing statement covering vouchered costs.

You may include in the final settlement agreement, all demands of the Government and proposals of the contractor under the terminated contract. However, do not allow any disallowed cost or any other cost of the same nature.

If you and the contractor can reach an overall settlement, agreement on each element of cost is not necessary. If appropriate, differences may be compromised and doubtful questions settled by agreement. However, do not include costs that are clearly unallowable under the terms of the contract.

Adjust fee in the manner prescribed by the contract. Generally, you will base fee on the percentage of completion.

- The percentage of completion may be greater or less than indicated by the percentage of estimated cost expended.
- When this method is used, consider factors such as the extent and difficulty of the work performed by the contractor in comparison with the total work required by the contract.
- Do not include an allowance for prime contractor fee based on subcontractor fee included in the subcontractor's settlement proposal.

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Partial  
Termination  
Settlement

FAR 49.304

In a partial termination, limit the settlement to adjustment of contract fee, if any, and a reduction in contract cost. Adjust contract fee under procedures for a partial termination unless:

- The terminated portion is clearly severable from the balance of the contract; or
- Performance of the contract is virtually complete, performance of any continued portion is only on subsidiary items or spare parts, or performance is otherwise not substantial.

If the above conditions are met, process the termination following the guidelines for a complete termination.

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Partial  
Termination  
Settlement  
Proposal–Fee  
Only

FAR 49.304-2

The final settlement proposal must be submitted to you within one year from the effective date of the termination, unless you extend the period for submission. In the proposal, the contractor must substantiate the amount of fee claimed.

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Submission of  
Vouchers

FAR 49.304-2

When the contractor's proposed partial termination settlement is limited to adjustment of fee, the contractor must continue to submit the SF 1034, Public Voucher for Purchases and Services Other than Personal for costs that are reimbursable under the contract. Do not reimburse the contractor for costs of settlements with subcontractors unless required approvals or ratifications are received.

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### 3.3.4 Pricing Cost-Reimbursement Termination for Default Settlements

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Principles for  
Settlement

Settlement of a cost-reimbursement contract terminated for default is subject to the principles for settlement of a Termination for Convenience, except that:

- The costs of preparing the contractor's settlement proposal are not allowable; and
- The contractor is reimbursed the allowable costs, and an appropriate reduction is made in the total fee, if any.

A cost-reimbursement contract does not contain any provision for recovery of excess repurchase costs.

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### 3.3.5 Pricing an Equitable Adjustment for the Continued Portion of a Fixed-Price Contract

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Purpose	<p>After a partial termination of a fixed-price contract, the contractor may request an equitable adjustment in the price or prices of the continued portion. This is not part of the actual termination settlement.</p> <p>The purpose of an equitable adjustment is to provide for any increases in the unit costs of the continued portion of the contract as a result of the reduction in volume. For example, start-up costs may not have been fully amortized at the time of the termination because of a significant decrease in volume, or the average labor hours necessary to produce each unit may not have decreased as anticipated because of learning or efficiency improvements.</p>
Indirect Costs	<p>However, the Government is not responsible for increased indirect costs incurred by the contractor because regular facilities are left idle by the termination.</p>
Responsibility	<p>If the TCO is not the contracting officer responsible for the acquisition, the TCO must refer the request to the responsible contracting officer. That contracting officer must assure that none of the costs included in the equitable adjustment are also included in the termination settlement.</p>
Timing	<p>The negotiation of any claim for equitable adjustment should be conducted with the final settlement negotiation. Although, these two negotiations overlap, they should result in separate agreements</p>

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### 3.4 OTHER SITUATIONS REQUIRING ADJUSTMENT

#### Introduction

Contracts contain other clauses that provide for an equitable adjustment

CLAUSES PROVIDING BASIS FOR ADJUSTMENT		
Clause	Use ...	The contractor may be due an equitable adjustment if...
Government Property (Fixed-Price Contracts) FAR 52.245-2	<ul style="list-style-type: none"> <li>Of FAR 52.245-2, required for all fixed-price contracts unless Short Form is used or cost of item to be repaired does not exceed simplified purchase limits.</li> </ul>	<ul style="list-style-type: none"> <li>The property is received by the contractor in a condition not suitable for the intended use.</li> <li>The property is not delivered to the Contractor by the required time.</li> <li>The Government decreases the property provided or provides substitute property.</li> <li>The Government withdraws authority to use property provided under another contract or lease.</li> <li>The Government fails to repair or replace Government property for which the Government is responsible.</li> </ul>
Government Property (Cost-Reimbursement, Time-and-Material, or Labor-Hour Contracts) FAR 52.245-5	<ul style="list-style-type: none"> <li>Of FAR 52.245-5, required for all cost-reimbursement, time-and-material, and labor-hour contracts unless Short Form is used.</li> </ul>	
Government Property (Short Form) FAR 52.245-4	<ul style="list-style-type: none"> <li>Optional for fixed-price, time-and-material, and labor-hour contracts under \$100,000.</li> </ul>	That property, suitable for its intended use, is not delivered to the contractor.
Suspension of Work FAR 52.212-12	<ul style="list-style-type: none"> <li>Required for fixed-price construction or architect-engineer contract</li> </ul>	Performance of all or any part of the contract work is, for an unreasonable time, suspended, delayed, or interrupted: <ul style="list-style-type: none"> <li>By an act of the contracting officer in administration of the contract, or</li> <li>By the contracting officer's failure to act with the time specified in the contract (or within a reasonable time if not specified).</li> </ul>
Government Delay of Work FAR 52.212-15	<ul style="list-style-type: none"> <li>Required for fixed-price supply contracts for other than commercial or modified commercial items.</li> <li>Optional for fixed-price service contracts and contracts for commercial or modified-commercial items.</li> </ul>	Performance of all or any part of the work is delayed or interrupted: <ul style="list-style-type: none"> <li>By an act of the contracting officer that is not expressly or implicitly authorized by the contract; or</li> <li>By the failure of the contracting officer to act within the time specified in the contract, or within a reasonable time if not specified,</li> </ul>
Stop-Work Order FAR 52.212-13	<ul style="list-style-type: none"> <li>Optional for fixed-price contracts for supplies, services, or research and development</li> <li>Required (Alt I) for cost-reimbursement contracts</li> </ul>	<ul style="list-style-type: none"> <li>The stop-work order results in an increase in the time required for, or in the contractor's cost properly allocated to, the performance of any part of the contract; and</li> <li>The contractor asserts its right to the adjustment within 30 days after the end of the period of work stoppage; or if the facts justify the contracting officer may receive and act on a claim any time before final payment.</li> </ul>

for Government action or inaction that affects contract performance. In this Section, we will consider four types of provisions: Government Property, Suspension of Work, Stop Work Order, and Government Delay of Work clauses.

Government  
Property

FAR 52.245-2 FAR 52.245-5
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As shown in the table above, all three of the Property clauses listed provide for an equitable adjustment when the Government fails to provide required GFP when and where it is required. Property furnished by the Government and property acquired by the contractor, title to which vests in the Government, are covered by the Government Property clauses. If the contract provides for reimbursing the contractor for material purchases:

- Title to material purchased for the contract shall pass to and vest in the Government upon vendor delivery and Government receipt.
- Title to all other material purchases shall pass to and vest in the Government upon --
  - Issuance of the material for use in contract performance;
  - Commencement of processing of the material for its use in contract performance; or
  - Reimbursement of the cost of the material by the Government, whichever occurs first.

**The Government Property (Fixed-Price Contracts) and Government Property (Cost-Reimbursement, Time-and-Material, or Labor-Hour Contracts)** clauses provide similar detailed guidance concerning when a contractor may be entitled to an equitable adjustment and guidelines affecting that adjustment:

- If Government furnished property (GFP) is received by the contractor in a condition not suitable for the intended use, the contractor must notify the contracting officer, detailing the facts, and, as directed by the contracting officer, either repair, modify, return, or otherwise dispose of the property. After completing the directed action, the contractor can submit a written request for an equitable adjustment.
- If the GFP is not delivered to the contractor by the required time, the contractor can submit a written request to the contracting officer requesting an equitable adjustment for any delay caused the contractor in performing the contract
- If the contracting officer, decreases the GFP provided or to be provided to the contractor, or substitutes other GFP for the property to be provided by the Government, or acquired by the contractor, under the contract, the contractor must promptly take action as directed by the contracting officer regarding the removal, shipment, of disposal of the property covered by the notice. The contractor can submit a written request for an equitable adjustment based on the contracting officer's action.

- If the contracting officer, withdraws authority for the contractor to use Government property provided under another contract or lease, the contractor can submit a written request for an equitable adjustment.
- If damage occurs to Government property, the risk of which has been assumed by the Government under the contract, the contractor shall make such repairs as the Government directs. However, if the contractor cannot make repairs within the time required, the contractor must dispose of the property as directed by the contracting officer. When any property for which the Government is responsible is replaced or repaired by the contractor, the contracting officer shall make an equitable adjustment.

FAR 52.245-4

The **Government Furnished Property (Short Form)** provision provides less detailed coverage. Under that provision, if property, suitable for the intended use, is not delivered to the contractor, the contractor can submit a written request for an equitable adjustment.

Any **equitable adjustment** under any of the Government Property clauses must be made in accordance with the procedures of the Changes clause.

Suspension of  
Work and  
Government  
Delay of Work

Note from the table above that the Suspension of Work and Government Delay of Work clauses provide for equitable adjustments as a result of similar acts or failures on the part of the contracting officer.

FAR 52.212-12  
FAR 52.212-15

Both provisions also require that:

- An adjustment shall be made for an increase in performance cost (excluding profit) necessarily caused by the suspension, delay, or interruption, and the contract modified accordingly.
- Do not make an adjustment under the clause for any suspension, delay, or interruption:
  - To the extent that performance would have been suspended, delayed, or interrupted by any other cause, including the fault or negligence of the contractor, or
  - For which an equitable adjustment is provided for or excluded under any other term or condition of the contract.
- A claim shall not be allowed:
  - For any costs incurred more than 20 days before the contractor notifies the contracting officer in writing of the act or failure involved (but this requirement shall not apply to a claim resulting from a suspension order under the Suspension of Work clause).
  - Unless the claim, in a stated amount, is asserted in writing as soon as practicable after the termination of the suspension,

delay, or interruption, but not later than the date of final payment under the contract.

FAR 12.504(b)

However, you should note that Government Delay of Work clause (unlike the Suspension of Work clause) does not authorize you to order a suspension, delay, or interruption of contract work, and the FAR specifically forbids use of the clause for that purpose.

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Stop-Work Order

FAR 52.212-13

Unlike the Suspension of Work and Government Delay of Work clauses, the Stop-Work Order clause provides for an equitable adjustment (including profit) if a stop-work order results in increased contract costs.

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Extended and  
Unabsorbed  
Indirect Cost

Probably the most complex cost adjustments that you will encounter with these types of actions are related to extended and unabsorbed indirect cost.

Extended overhead costs are management and other fixed costs related to the suspension, delay, or interruption. Unabsorbed costs are the fixed portion of indirect costs that the contractor cannot reasonably absorb because the base (e.g., direct labor) has fallen significantly or been completely eliminated because of the suspension, delay, or interruption. While these costs can be considered in adjustments for supply and service contracts, they are most commonly considered in adjustments related to construction contracts.

ASBCA 5183, 60-2  
BCA 2688 and 61-1  
BCA 2894

The Eichleay formula (named for the decision in which it was adopted) is the best known and most commonly used method for estimating the cost.

Eichleay Formula

The Eichleay formula is calculated as shown below:

$$\text{Indirect Cost Adjustment} = \frac{\left(\frac{A}{B}\right) \times C}{D} \times E$$

When:

- A = Value of billings on the suspended contract during contract performance
- B = Value of billings for all contracts performed by the contractor during the performance period of the delayed contract (including billings for the period that the contract is delayed)
- C = Relevant indirect cost incurred by the contractor during the period of performance of the delayed contract.
- D = Number of days of actual performance on the suspended contract
- E = Number of days delay

*(Topic continued on next page)*

Eichleay Formula  
(continued)

You can use the Eichleay Formula during contractor performance to make an equitable adjustment for unabsorbed indirect cost, but it is most commonly used to resolve claims on completed contracts.

**For example,** assume that you are administering a contract to remodel office space at your facility. The contractor is denied access to the area for ten days because of a terrorist threat. An equitable adjustment can be calculated using the Eichleay Formula.

A = \$995,000 = Value of billings on the remodeling contract.

B = \$3,410,000 = Value of billings on all contracts during the remodeling contract performance period.

C = \$410,000 = Relevant contractor indirect cost during the remodeling contract performance period.

D = 180 = Number of days of remodeling contract performance, including the delay.

E = 10 = Number of days that performance was delayed.

$$\begin{aligned}
 \text{Indirect Cost Adjustment} &= \frac{\left(\frac{A}{B}\right) \times C}{D} \times E \\
 &= \frac{\left(\frac{\$995,000}{\$3,410,000}\right) \times \$410,600}{180} \times 10 \\
 &= \frac{.28 \times \$410,600}{180} \times 10 \\
 &= \frac{\$114,968}{180} \times 10 \\
 &= \$639 \times 10 \\
 &= \$6,390 \text{ equitable adjustment for the delay}
 \end{aligned}$$

Eichleay Formula  
Assumptions

Use of the Eichleay method follows several key assumptions:

- Overhead costs include only fixed costs.

- The contractor cannot replace the suspended work with other work. (If the contractor could replace the suspended work with other work, no unabsorbed overhead would exist.)
- There is a total work stoppage.
- The cost of the delay is the same regardless of the percentage of contract completion (the method will produce the same result whether the contract is 1 percent complete or 99 percent complete).
- The facilities are operating at or near capacity.

Eichleay Formula  
Adjustments

If these assumptions are not present consider use of a modified form of the formula or an alternative approach.

DCAM 12-805(c)

**Eichleay Formula Adjusted for a Partial Replacement of Work.** If the contractor replaced a portion of the work involved, consider adjusting the number of delay days to compensate. For example, assume that there is a 40-day delay period and that the contractor cannot replace 75 percent of the work while 25 percent is replaced. Using the basic Eichleay method, the number of delay days would be 40. However, you can compensate for the partial loss by only considering 30 delay days (75 percent of the 40).

Eichleay Formula  
(continued)

DCAM 12-805(d)

**Eichleay Formula Adjusted for a Partial Work Stoppage.** In cases of a partial work stoppage, the number of days of the stoppage should also be adjusted. For example, consider a 50 percent work stoppage for 30 days. Using the basic Eichleay method, the number of days would be 30. You can adjust for the partial stoppage by only considering 15 delay days (50 percent of 30).

DCAM 12-805(d)

**Eichleay Formula Adjusted for Less Than Capacity Operation.** If the value of total contractor billings during the contract period has been depressed from full capacity, consider adjusting the value of the billings upward to approximate what the value would have been. This reduction is not the result of the delay.

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## Other Methods

DCAM 12-807

**Allegheny Method.** This method visualizes the impact of a delay as a time line. It involves an attempt to recreate what would have happened had the delay not occurred. The difference between the recreated indirect cost rate and the rate actually incurred is the effect on indirect cost expense caused by the Government delay.

Only consider this method in situations where:

- The contractor has the capacity to perform the delayed work simultaneously with other scheduled work.
- The contractor did not turn down other work during the period of extended contract performance.

DCAM 12-807.2

**Simulation Method.** The Simulation Method divides contract billings by the actual days worked to determine average contract billings per day worked. The daily average is then multiplied by the number of days of delay to simulate the work that would have been performed had the delay not occurred. This amount is added to both contract billings and total billings, the resulting ratio is used to allocate total overhead to the contract. The total amount so allocated, less the amount allocated to actual work performed, yields the cost of the delay.

DCAM 12-807-3

**Burden Fluctuation Method.** Under the Burden Fluctuation Method, the difference between the experienced rates and the rates used by the contractor in its bid/proposal is calculated, and this difference is multiplied by the value of residual labor costs. The residual labor costs represent the difference between the incurred total direct labor dollars and the labor dollars incurred on the contract. The result is designated as unabsorbed overhead.

*(Topic continued on next page)*

Other Methods  
(continued)

This method does not consider that the contractor's bid/proposal may have been understated or that the increase in burden rates may result from other factors that are under the contractor's control and not related to the Government caused delay.

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Other Cost  
Considerations

Other costs that you will encounter in considering adjustments related to suspensions, delays, or interruptions will include costs such as:

- **Labor stand-by time.** During the suspension, delay, or interruption there may have been a period of time when the contractor had to pay workers for non-productive effort. To the extent the contractor could not eliminate the cost, the Government is liable. However, if the contractor simply kept the work force standing by and did not take prudent steps to reassign work or release workers, then the Government would not be liable for the excess costs.

Other Cost  
Considerations  
(continued)

- **Equipment rental.** If the contractor has rented equipment for use on the contract, and must incur additional rental costs as a result of the suspension, delay, or interruption, the Government is liable. However, if the contractor had the opportunity to use the equipment on another job or return it to the rental company during the period of delay, then the Government would not be liable for the excess costs.
  - **Loss of efficiency.** While more abstract than the previous examples, the contractor is entitled to compensation for increased costs due to inefficiencies resulting from the suspension, delay, or interruption. For example, the layoff and rehiring of skilled tradesmen can create inefficiencies due to different people than the original work force members being hired and retraining. In this case, cost/price analysis must be used to determine if inefficiency exists, and what the difference is between the actual cost of performance and what the costs would have been if not for the suspension, delay, or interruption.
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### 3.5 DEFINITIZING LETTER CONTRACTS AND UNPRICED ORDERS

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#### Introduction

FAR 16.603

When there is an immediate need to execute a contract or a modification to a contract, you may need to use a Letter Contract or an Unpriced Order.

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#### Definitization Schedule

FAR 16.603-2  
FAR 52.216-25

Each letter contract must include a Definitization Schedule clause. The FAR clause provides for inclusion of the specific schedule that you negotiate with the contractor. The schedule must include the following:

- Dates for submission of the contractor's:
    - Price proposal
    - Required cost or pricing data
    - Make-or-buy plan (if required)
    - Subcontracting plan (if required)
  - A date for the start of negotiations.
  - A target date for definitization. Establish the earliest practicable target date for definitization, but the date must be no later than 180 days after the date of the letter contract; or before completion of 40 percent of the work, whichever occurs first. However, you may, in extreme cases and according to agency procedures, authorize an additional period.
- 

#### Maximum Liability

FAR 16.603-2 (d)  
FAR 52.216-24

When you prepare a letter contract, complete and incorporate the "Limitation of Government Liability" clause, which limits Government contract liability prior to definitization. Under that clause, liability is restricted to a maximum of 50 percent of the contract price (unless a higher maximum is approved in advance by the official that authorized the letter contract).

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#### Provisional Billing Prices

In some cases contractors have asked the Government for billing prices for use on items delivered under Letter Contracts and Unpriced Orders. Take care to ensure that such requests are appropriate under the unique circumstance of the contract. Further, the billing price should be set at a level where the contractor will still be motivated to negotiate within the definitization schedule, and within the limitations on funding contained in FAR 16-603-2 (d).

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### 3.6 SPECIAL CONSIDERATIONS FOR PRICING CLAIMS

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#### Introduction

FAR 52.233-1

Any of the pricing actions considered in this Chapter may result in a claim against the Government. A claim is a written demand or assertion by one of the contracting parties seeking, as a matter of right:

- The payment of money in a sum certain;
- The adjustment or interpretation of contract terms; or
- Other relief arising under or relating to the contract.

A written demand or written assertion by the contractor seeking the payment of money exceeding \$50,000 is not a claim under the Disputes clause until it is certified (See contractor claim certification below). A voucher, invoice, or other routine request for payment may be converted to a claim under the Contract Disputes Act, by complying with the submission and certification requirements.

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#### Contractor Claim Submission

A claim by the contractor shall be made in writing and submitted to the contracting officer for written decision.

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#### Government Claims

The contracting officer must issue a written decision on any claim initiated by the Government against the contractor.

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#### Contractor Claim Certification

For claims exceeding \$50,000, the contractor must certify that:

- The claim is made in good faith;
- Supporting data are accurate and complete to the best of the contractor's knowledge and belief; and
- The amount requested accurately reflects the contract adjustment for which the contractor believes the Government is liable.

If the contractor is an individual, the certification must be executed by that individual. If the contractor is not an individual, the certification must be executed by:

- A senior company official in charge at the contractor's plant or location involved; or
  - An officer or general partner of the contractor, who has overall responsibility for the conduct of the contractor's affairs.
-

Certification of Current Cost or Pricing Data	A Certificate of Current Cost or Pricing Data is not required in support of a claim under the Disputes clause.
Contracting Officer's Authority	<p>As a contracting officer, you have authority, within the limits of your warrant to decide or settle all claims arising under or relating to a contract subject to the Contract Disputes Act. This authority does not extend to:</p> <ul style="list-style-type: none"> <li>• A claim or dispute for penalties or forfeitures prescribed by statute or regulation that another Federal agency is specifically authorized to administer, settle, or determine; or</li> <li>• The settlement, compromise, payment, or adjustment of any claim involving fraud.</li> </ul>
Contracting Officer's Decision	<p>When a claim cannot be resolved by mutual agreement and a decision on the claim is necessary, you must:</p> <ul style="list-style-type: none"> <li>• Review the facts pertinent to the claim.</li> <li>• Secure assistance from legal and other advisors.</li> <li>• Coordinate with the contract administration office or contracting office as appropriate.</li> <li>• Prepare a written decision following the requirements of FAR 33.211(a). If the decision results in a finding that the contractor is indebted to the Government, the decision must include a Demand for Payment.</li> </ul>
Provide the Contractor a Copy of the Decision	Furnish a copy of the decision to the contractor by certified mail, return receipt requested, or by other method that provides evidence of receipt.



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Interest on Claims    The Government must pay interest on contractor claims on the amount found due and unpaid from:

- The date the contracting officer receives the claim (properly certified, if required); or
- The date payment otherwise would have been due, if that date is later.

Simple interest is calculated from the proper date above until the date of payment. The rate shall be the rate determined by the Secretary of the Treasury which is applicable to the period during which the contracting officer receives the claim and then at the rate applicable for each 6-month period that the claim is pending.

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## **QUESTIONS AND PROBLEMS**

1. Identify four measures of cost that can be considered in pricing an equitable adjustment.
2. Which of the approaches to pricing an equitable adjustment is normally considered best?
3. Identify the types of cost that you should consider in making an equitable adjustment.
4. In pricing work deleted from a contract, should you use the proposed price or current estimated price to perform the work?
5. Is pricing a termination for convenience the same no matter what type of contract is involved?
6. Why do you consider the loss ratio in pricing a fixed-price contract termination for convenience?

7. When is the Eichleay Formula used?
8. When is a claim certification required?
9. What two requirements establish the maximum period for letter contract definitization?
10. From what point in time is the Government responsible for paying interest on a contract claim?

## BURGER SYSTEMS

Burger Systems won a competitive contract to produce 120 units of a new state-of-the-art materials handling system for the Government. After 80 units were produced and delivered, you received request for a contract modification. The modification involves replacing a key component with another part and will take effect with Unit #101.

You requested a proposal from Burger for the change. The key element of that proposal is direct production labor.

**Contractor Proposed Reduction for Deleting the Original Part.** Burger's proposal for the current contract estimated labor cost for the original component using a  $T_1$  of 1,000 hours and an 80 percent improvement curve. Accordingly, Burger used the same curve in estimating the reduction in labor hours related to deleting the original component—a reduction of 4,400 labor hours for Units #101-120

**Contractor Production Data.** Burger divided the 120 unit contract into six production releases of 20 units each. The first four releases are complete but work just began on Release 5. Actual labor hours to date are:

Release 1 =	12,400 labor hours
Release 2 =	8,400 labor hours
Release 3 =	8,200 labor hours
Release 4 =	7,200 labor hours
Release 5 =	100 labor hours (work just started)

**Contractor Proposed Increase for Adding the New Part.** Burger estimates that it will require 800 labor hours per unit to produce the new component -- 16,000 labor hours total. No improvement is projected because of the short production run.

**Government Technical Analysis.** Government technical personnel believe that the contractor's estimate of 800 labor hours is a reasonable  $T_1$  but they also believe that the production costs should decline following an 85 percent improvement curve.

1. Has the contractor made a reasonable estimate for the labor-hour reduction related to the deletion of the original component from Units #101-120?
2. What should be the labor-hour reduction related to the deletion of the original component from Units #101-120?

3. What should be the labor-hour increase related to the addition of the new component to Units #101-120? (NOTE: Burger has never made this component or a similar component before.)
4. What would be the net change in labor hours as a result of the contract modification?

**FOSTER ENTERPRISES**

You recently terminated a contract with Foster Enterprises for the convenience of the Government. The costs related to the termination are:

\$8,750 = Negotiated settlement expenses

\$62,500 = Contract price for complete end items

\$437,500 = Remainder of settlement amount

\$875,000 = Contract price

\$500,000 = Incurred costs before contract termination

\$562,500 = Estimated cost to complete the contract if it had not been terminated

1. Calculate the settlement amount using the inventory method.

2. Calculate the settlement amount using the total cost method.

## THOMPSON CONSTRUCTION

Thompson Construction has a contract to remodel two Government warehouses for use as modern office space. The \$900,000 contract was awarded seven months ago. For 150 days, work proceeded as expected. Thompson completed work on Warehouse 1 and began work on Warehouse 2.

In removing the existing cracked and damaged Warehouse 2 floor, Thompson personnel uncovered what appeared to be ancient pottery. Thompson's Program Manager notified you and you ordered the contractor to stop work until the Government could determine the source and nature of the pottery. University specialists were called in and began a careful excavation of the immediate area. Hundreds of pieces of pottery were removed and sent to nationally recognized experts for analysis. After 30 days, the experts determined that when the warehouse was built there was a pottery factory about five miles away, and scrap from the factory had been used for fill during the original warehouse construction.

You immediately notified Thompson that work could continue.

As a result of the delay, Thompson submitted a request for equitable adjustment that includes \$21,500 for indirect costs. Thompson calculated that this contract was 50 percent of company billings in July. Half of the \$43,000 indirect cost for August is \$21,500. Thompson also submitted the following billing records to support the request:

Billings	Mar	Apr	May	Jun	Jul	Aug
This Contract	\$25,000	\$46,305	\$120,000	\$175,000	\$213,600	- 0 -
All Contracts	\$320,000	\$375,000	\$385,420	\$425,400	\$427,200	\$212,300

Thompson incurred a total of \$258,000 in relevant indirect cost during the six months of the contract.

1. Using the Eichleay Formula, develop a position on the proposed equitable adjustment.
2. What would your position be if Thompson replaced 30 percent of the work?

## CONRAD CORPORATION

The Conrad Corporation is a clothing manufacturer that won a sealed-bid contract to produce uniforms for the Government. Now several months later, Conrad has submitted a claim related to the Government's failure to provide Government Furnished Material (GFM). The following paragraphs outline contract events related to the claim:

**October 20 19X1.** A contract was awarded for production for 101,400 uniform coats. The contract specifies that the Government will furnish the material required to produce the outer shell of the required coats. GFM consumption was estimated at 2.4 yards per coat for a total material usage of 243,360 yards. The contract called for the Government to release GFM in quantities no larger than 50,000 yards to limit contractor storage space requirements at the Conrad plant.

**October 5, 19X2.** Government Depot personnel notified the contracting officer that the Depot was unable to fill Conrad GFM requisitions because of a stock outage. Depot computer records indicated that there were 100,000 yards of material available but a physical inventory failed to locate any of the required material or an acceptable substitute.

**November 5, 19X2.** The contracting officer notified Conrad that the required GFM was not available and that the Government planned to convert the balance of the contract to Contractor-Furnished Material (CFM). At that time, Conrad estimated that 95,000 yards of material would be required to complete balance of contract (39,584 units).

**November 10, 19X2.** The contracting officer issued a unilateral change converting the outer shell material from GFM to CFM. At that time, Conrad indicated that 3-4 weeks of uncut GFM inventory remained and projected a 5 to 6-week lead time for receipt of the CFM.

**January 5, 19X3.** Conrad submitted a request for equitable adjustment:

PROPOSED EQUITABLE ADJUSTMENT		
Material	95,000 yards @ \$10/yard	\$950,000
Material Overhead	5% of Material Cost	\$47,500
Other Direct Cost	Estimation of cost impact of the change	<u>\$500</u>
Total Manufacturing Cost		\$998,000
G&A Expense	10% of Total Manufacturing Cost	<u>\$ 99,800</u>
Total Cost		\$1,097,800
Profit	15% of Total Cost	<u>\$164,670</u>
Requested Adjustment		\$1,262,470

**February 1, 19X3.** The contracting requested assistance from the ACO, cognizant auditor, and technical personnel.

**February 28, 19X3.** Technical personnel found that:



- Conrad purchased a reasonable amount of material.
- The proposed Material Overhead was excessive for the effort involved, issuing and administering a single purchase order. Estimated actual cost was \$250.

**February 28, 19X3.** The cognizant auditor did not question any of the proposed cost. The auditor did comment that the proposed indirect rates complied with the current Forward Pricing Rate Agreement (FPRA).

**March 5, 19X3.** The contracting officer developed a negotiation position based on the audit and technical reports.

EQUITABLE ADJUSTMENT NEGOTIATION OBJECTIVE		
Material	Accepted Conrad proposed amount.	\$950,000
Material Overhead	Accepted Technical recommendation.	\$250
Other Direct Cost	Accepted Conrad proposed amount.	\$500
Total Manufacturing Cost		\$950,750
G&A Expense	Accepted proposed 10% rate.	\$ 95,075
Total Cost		\$1,045,825
Profit	5% of Total Cost because costs all incurred	\$52,291
Adjustment Objective		\$1,098,116

**March 31, 19X3.** After weeks of negotiation, the contracting officer and the contractor could not reach agreement on an equitable adjustment. The major areas of difference were Material Overhead and Profit. As a result, the contractor submitted a claim seeking payment under the Disputes clause of the contract.

CONRAD CLAIM		
Material	95,000 yards @ \$10/yard	\$950,000
Material Overhead	5% of Material Cost	\$47,500
Other Direct Cost	Estimation of cost impact of the change	\$500
	Claim preparation cost	\$1,000
Total Manufacturing Cost		\$999,000
G&A Expense	10% of Total Manufacturing Cost	\$ 99,900
Total Cost		\$1,098,900
Profit	15% of Total Cost	\$164,835
Requested Adjustment		\$1,263,735

**April 5, 19X3.** The contracting officer received a Claim Certification signed by the Contract Manager and dated April 2, 19X3.

**April 15, 19X3.** The contracting officer received a Claim Certification signed by the Plant Manager and dated April 10, 19X3. The second Certification was identical to the first, except for the signature.

**Questions:**

1. Does the proposed material cost appear reasonable?
2. Whose position on Material Overhead appears most reasonable?
3. Is the cost of preparing the request for equitable adjustment allowable?
4. Is the cost of preparing the claim allowable?
5. Is the proposed G&A Expense reasonable?
6. How should the profit rate be determined?
7. If the contractor is to be paid interest, what should be the first day for interest calculation?

## COLLINS CORPORATION

Improved automobile driver safety and satisfaction have been primary agency objectives for some time. That is why the agency head is so interested in the use of the newly developed Global Automobile Positioning System (GAPS) to assist drivers in finding their way in unfamiliar surroundings. To speed the technology to the field, you issued a letter contract to Collins Corporation, the GAPS developer, on November 15, 19X2. The contract price ceiling is \$10 million for production of 1,000 units (Units 2,001 to 3,000 of GAPS production).

**Contract Definitization Schedule:** The contract definitization schedule is:

- January 15, 19X4 -- Collins submits its firm fixed-price proposal.
- March 1, 19X4 -- Negotiations begin
- April 15, 19X4 -- Target date for contract definitization

**Price Proposal:** Collins actually submitted its \$9,750,000 proposal on February 1, 19X4.

**Proposed Manufacturing Labor Cost:** After reviewing the proposal, one of your major concerns is the proposed direct manufacturing Collins provided the following labor history:

Units 1 - 500	-	100,000	labor hours.
Units 501 - 1,000	-	75,000	labor hours.
Units 1,001 - 2,000	-	100,000	labor hours.
Units 2,001 - 3,000	-	4,800	labor hours to date. No units have been completed.

Using the average hours per unit for the first 2,000 units, Collins proposed 137,950 labor hours.

Four labor categories are involved. Collins estimated the percentage of labor in each wage category using a cost estimating relationship (CER) developed from Collins' experience in producing the first 2,000 units:

PERCENTAGE OF PRODUCTION HOURS BY WAGE CATEGORY				
WAGE CATEGORY	PERCENTAGE FOR UNITS 1 - 500	PERCENTAGE FOR UNITS 501 - 1,000	PERCENTAGE FOR UNITS 1,001 - 2,000	PROPOSED AVERAGE PERCENTAGE
Senior Production Technician	34.0%	29.0%	20.0%	27.6%
Production Technician	27.0%	23.0%	15.0%	21.7%
Senior Production Specialist	20.0%	27.0%	30.0%	25.7%
Production Specialist	19.0%	21.0%	35.0%	25.0%
Total	100.0%	100.0%	100.0%	100.0%

Proposed labor rates are the rates in Collin's current Forward Pricing Rate Agreement (FPRA).

WAGE CATAGORY	FPRA RATES	LABOR HOURS	PROPOSED COST
Senior Production Technician	\$35.00	37,950	\$1,328,250
Production Technician	\$30.00	29,838	895,140
Senior Production Specialist	\$25.00	35,338	883,450
Production Specialist	\$18.00	34,374	618,732
Total Proposed Cost		137,500	\$3,725,572

### Government Proposal Reviews:

The cognizant auditor did not question Collins' labor estimate.

Technical personnel did not question the proposed labor hours, but did question the proportion of hours in each labor category. The analysis emphasized that the proportion of higher skilled technicians declined during production of the first 2,000. They feel that the labor utilization on Units 1,001 - 2,000 is more representative of what will be required in the future. The technical report further states that the 4,800 labor hours incurred to date on this contract support their position.

### Questions:

1. Does this contract provide for definitization within the FAR time guidelines?
2. What quantitative technique should you consider in this situation?
3. What is your estimate of the labor hours required to complete the 1,000 units?
4. How many hours would you estimate for each labor category?
5. What is your estimate of the appropriate labor rate for each category of labor?

6. What is your estimate of labor cost for the definitive contract?

WAGE CATAGORY	RATES	LABOR HOURS	PROPOSED COST
Senior Production Technician			
Production Technician			
Senior Production Specialist			
Production Specialist			
Total Proposed Cost			

7. If you cannot reach agreement with the contractor on contract price, what action can you take?

## **CHAPTER 4**

### **Reviewing the Contractor's Pricing and Accounting Practices**

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## LEARNING OBJECTIVES

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At the end of this  
Chapter

At the end of this chapter, you will be able to:

**Classroom Learning Objective 4/1**

Determine the adequacy of the contractor's accounting system.

**Classroom Learning Objective 4/2**

Determine the adequacy of the contractor's cost estimating system.

**Classroom Learning Objective 4/3**

Establish the Government's position on Cost Accounting Standards cost impact adjustments.

**Classroom Learning Objective 4/4**

Recognize potential indicators of fraud.

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## CHAPTER OVERVIEW

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### In This Chapter

This chapter covers:

DESCRIPTION	SEE PAGE
4.1 Reviewing Accounting Systems	4-4
4.2 Establishing the Government's Position on CAS Cost Impact Adjustments	4-11
4.3 Reviewing Cost Estimating Systems	4-20
4.4 Recognizing Potential Indicators of Fraud and Other Wrongdoing	4-26
Problems and Cases	4-30

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### References

FAR	1.602-2	DFARS	215.811-70
	9.106		
	16.104(h)	DCAACAM	4-702.1
	15.805		5-307
	15.811		10-307.4
	30.602		Figs. 10-12-1 & 2
	31.201-2		
	32.503-3	DoD IG TINA Handbook, App. B	
	52.230		
	52.233	Executive Order 12674	

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## 4.1 Reviewing Accounting Systems

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### Introduction

The accounting system is the source of most of the cost or pricing data and partial or limited data a firm provides to the Government. For that reason, you should be concerned about the firm's accounting system whenever you make any decisions involving the use of these data, such as:

- Contract pricing.
- Contractor responsibility, particularly for other than firm fixed-price contracts.
- Initiation of progress payments.

FAR 15.805-5(e)(7) FAR 31.201-6 DCAM 5-202.2
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The objective of the accounting system review is to determine the adequacy and suitability of a firm's accounting system and practices for accumulating costs under a prospective or existing Government contract. There are three sources of accounting principles and standards which are applicable to contractor accounting systems. In order of precedence, these are:

- Cost Accounting Standards (CAS) promulgated by the Cost Accounting Standards Board. Whenever a contractor is required to comply with CAS, the requirements of those Standards take precedence over all other accounting guidance.
- Federal Acquisition Regulation (FAR). All contractors must comply with applicable FAR requirements. For example, FAR establishes basic guidelines regarding contractor accounting for unallowable costs.
- Generally Accepted Accounting Principles (GAAP). Accounting treatment not specifically covered by CAS or FAR requirements must be treated in accordance with GAAP and the associated Financial Accounting Standards (FAS).

When contractor accounting practices are inconsistent with the applicable requirements, costs resulting from such inconsistent practices shall not be allowed in excess of the amount that would have resulted using consistent practices.

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## Requesting an Accounting System Review

You should normally obtain an accounting system review as part of the following:

- Field pricing support.
- Preaward survey.
- Review prior to the initiation of progress payments.

However, you should contact the cognizant auditor any time that you suspect that the Government's interests may be at risk because of the contractor's accounting practices.

### FAR 15.805-5

**Field Pricing Support:** The most common method of requesting an accounting system review is through a request for field pricing support. FAR 15.805-5 requires you to request field pricing (including audit) support before negotiating any contract or modification resulting from a proposal in excess of \$500,000, except as otherwise provided under agency procedures, unless available information is adequate to determine the reasonableness of proposed costs. You should initiate field pricing support by sending a request to the cognizant administrative contracting officer (ACO). When there is no ACO or you are exempted by agency regulation, you may initiate an audit by sending a request to the auditor through appropriate channels. For example, contracting officers in most agencies outside the Department of Defense (DoD) will request audit support through the agency inspector general.

### FAR 15.805-5(e)(7) DCAM 10- 307.4

Auditors requested to provide field pricing support are required by FAR 15.805-5(e)(7) to notify you if they believe that the offeror's accounting system is inadequate to support the proposal or to permit satisfactory administration of the contract contemplated. Audit manuals provide further guidance on how auditors should meet this requirement. For example, the Defense Contract Audit Agency Contract Audit Manual (DCAAM 7640.1 or DCAM) requires the auditor to include an audit report appendix covering the adequacy of the contractor's accounting system, unless the contractor has submitted an adequate CAS Disclosure Statement. When the appendix is required, the auditor should:

- Identify and briefly describe the contractor's cost accounting system.
- Report deficiencies in the accounting system and internal controls which affect the reliability of contract cost.

*(Topic continued on next page)*

Requesting an  
Accounting  
System Review  
(continued)

- Advise you, if the deficiencies identified have been previously reported.
- Include an explanation if the contractor's accounting system is not adequate to determine the costs under the type of contract awarded or contemplated.
- Report if the contractor's accounting system does not provide for costing by lots, batches, or runs. Such reporting is required for the application of common proposal analysis techniques such as improvement curve analysis.

FAR 9.106

**Preaward Survey:** Normally, you should request a preaward survey when the information on hand or readily available is not sufficient to make a determination on contractor responsibility. You may request an accounting system review as part of a preaward survey by indicating the need for a review on the Standard Form (SF) 1403, Preaward Survey of Prospective Contractor. The person responding to the request, normally the cognizant auditor, will complete a Standard Form (SF) 1408, Preaward Survey of Prospective Contractor Accounting System. That person will make a general recommendation on the adequacy of the contractor's accounting system. As a minimum, the reviewer will answer the following questions in making the recommendation:

- Is the accounting system in accord with generally accepted accounting principles that are applicable under the circumstances?
- Does the accounting system provide for:
  - Proper segregation of direct costs and indirect costs?
  - Identification and accumulation of direct costs by contract?
  - A logical and consistent method for the allocation of indirect costs to intermediate and final cost objectives?
  - Accumulation of costs under general ledger control?
  - A time keeping system that identifies employee's labor by intermediate and final cost objectives?
  - A labor distribution system that charges direct and indirect labor to the appropriate cost objectives?
  - Interim (at least monthly) determination of costs charged to a contract through routine posting of books of account?
  - Exclusion from costs charged to Government contracts of amounts which are not allowable under FAR Part 31 and other contract provisions?

*(Topic continued on next page)*

Requesting an  
Accounting  
System Review  
(continued)

- Identification of costs by contract line item and by units if required by the contract?
- Segregation of preproduction costs from production costs?
- Does the accounting system provide financial information:
  - Required by contract provisions concerning limitation of cost and limitation of payments?
  - Required to support progress payments?
- Is the accounting system designed and are the records maintained in such an manner that adequate , reliable data are developed for use in pricing follow-on acquisitions?
- Is the accounting system currently in full operation?

FAR 32.503-3

**Progress Payment Review:** An adequate accounting system is essential for effective administration of progress payments. Progress payments in the amounts requested should be approved as a matter of course when you have found from previous experience or recent (within the last 12 months) audit review that a contractor is:

- Reliable, competent, and capable of satisfactory performance,
- Possessed of an adequate accounting system and controls, and
- In sound financial condition.

For all other contractors, you shall not approve progress payments before determining that the:

- Contractor will be capable of liquidating any progress payments, or the Government is otherwise protected against loss by additional protective provisions.
- Contractor’s accounting system and controls are adequate for proper administration of progress payments.

The services of the cognizant Government auditor should be used to the greatest extent practicable in making these determinations. However, if the auditor so advises, a complete audit may not be necessary.

DCAM 5-307  
DCAM Figures  
10-12-1 and 2

When an audit is performed, report comments on the accounting system will generally be brief unless controls are found to be unacceptable. A standard comment might read: “The audit disclosed no weaknesses in the contractor’s internal control procedures that would necessitate a restriction of contract financing through progress payments.” If controls are found to be unacceptable, the report should detail specific weaknesses.

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Preparing an  
Initial Position on  
Adequacy

FAR 30.202-7

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There is only one accounting system. There should not be a situation where one contracting officer determines that the system is adequate while another contracting officer determines that the system is not adequate.

When an administrative contracting officer (ACO) is assigned to the contractor, he/she should play a critical role in determining accounting system acceptability. Under CAS, the ACO is responsible for determining the adequacy of the contractor's Disclosure Statement and for any action needed to require contractor correction of noncompliant accounting practices.

Before taking any action related to the adequacy of the contractor's accounting system, you must review the available information and ask any questions necessary to assure that you understand the position taken by the auditor, the ACO (if one is assigned), and any other experts involved in reviewing the accounting system. Consider the following:

- Facts found during the accounting system review.
- Missing or insufficiently documented findings.
- Apparent fallacies (quantitative or logical).
- Inconsistencies between the findings and other available information.

Based on the available information, establish an initial judgment on the adequacy of the system as the basis for discussions with the contractor. That position will reflect the reason for the examination of the accounting system.

- If the system review was part of a proposal analysis, your position may be that the proposal is not adequate for negotiation.
- If the review was part of a preaward survey, your position may be that the contractor is not responsible.
- If the review involved progress payments, your position may be that the system is not adequate to support progress payments.

As most audit reports will caution you, audit results should not be used for purposes other than the purpose for which the audit was accomplished without consulting the auditor.

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## Discussing the Accounting System Review

FAR 15.805-5(f)

In general, the results should not be discussed with anyone not directly involved in the contracting process. The contracting officer is responsible for determining who should have information from the accounting system review (ASR) and how much data should be provided. If the ASR uncovers weaknesses or deficiencies, you should consider discussing them with the contractor prior to making a decision on adequacy.

In conducting discussions with the contractor, you should consider the following:

- The contracting officer should control all discussions.
- Other personnel such as the cognizant auditor should be invited to support the contracting officer as required, including participation in discussions.
- During discussions, the contractor should be advised of specific accounting system weaknesses or deficiencies.
- The contractor should be given an opportunity to provide additional information and take other action necessary to correct any possible misunderstandings.
- If further contractor action is required to resolve weaknesses or deficiencies, specific areas of action should be identified and a corrective action plan established. Any plan proposed by the contractor should include target completion dates for identified action. Request comment from the cognizant auditor on any proposed corrective action plan.

## Determining Adequacy

You may find an accounting system to be:

- Adequate.
- Adequate with exceptions covered by a corrective action plan.
- Inadequate.

In making the decision on system adequacy, you should place heavy reliance on the recommendation of the cognizant auditor and the ACO if one is assigned. **REMEMBER**, auditors are the accounting experts who have general access to the contractor's accounting records. To support your decision, the cognizant auditor should be provided any additional information presented by the contractor that may significantly affect audit findings. The auditor may be requested to immediately review the disclosed information and orally report on the findings, followed by a supplemental report when necessary.

If you take any action other than the action recommended by the auditor, you should clearly document your rationale.

Protecting the  
Government's  
Interests

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If you find that the contractor's accounting system is not adequate, you must take action to protect the Government's interests. The action that you take will depend on the situation.

If you requested the review as part of Government field pricing support, you may decide not to consider the firm for contract award unless there is an exemption (e.g., competition, market pricing, catalog pricing, or regulated pricing) that would permit you to evaluate proposal pricing without performing cost analysis.

If you requested a preaward survey to determine if the firm's accounting system is adequate to support award and administration of a cost-reimbursement contract, you should:

FAR 9.104-1(e)

- Eliminate the firm from consideration as nonresponsible<sup>1</sup> or
- Consider withholding award until the contractor agrees to remedy any deficiencies.

If you requested a review prior to initiating progress payments, you may refuse to make progress payments until the accounting system is made acceptable. If progress payments are already being made, you should reduce or suspend progress payments until the accounting system is made acceptable.

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<sup>1</sup>Before rejecting a small business offer that you consider to be nonresponsible, refer the matter to the Small Business Administration, which will decide whether or not to issue a Certificate of Competency. See FAR 9.104-3(e).

## 4.2 Establishing the Government's Position on CAS Cost Impact Adjustments

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### Introduction

Cost impact adjustments may be required when a contractor's cost accounting practices change or a Cost Accounting Standard (CAS) noncompliance has occurred. The table below identifies situations when the cognizant ACO is required to negotiate an equitable adjustment under CAS coverage.

REQUIREMENTS FOR EQUITABLE ADJUSTMENT UNDER CAS COVERAGE		
Type of Accounting Change	Description	An equitable adjustment is required..
Required FAR 30.602-1(a)(2)	Required to comply with a new or modified Standard issued by the CAS Board	Upward or downward (as appropriate). The ACO must negotiate an equitable adjustment on existing CAS-covered contracts.
Voluntary - Desirable FAR 30.602-3(a)(2)	The change is voluntary, but the ACO determines that the change is desirable for the Government.	Upward or downward (as appropriate). Since the change is desirable for the Government, an equitable adjustment should be negotiated.
Voluntary - Other FAR 30.602-3(a)(2)	The change is voluntary and the ACO does not determine that the change is desirable for the Government.	Only if the net result is a reduction in the cost to the Government for CAS-covered contracts. Since the change is voluntary and not considered desirable by the ACO, do not allow an increase in the cost to the Government for CAS-covered contracts.
Noncompliance FAR 30.602-2(c)	The change is required to eliminate contractor noncompliance with previously established CAS requirements.	Required only if the net result is a reduction in the cost to the Government for CAS-covered contracts. Do <b>not</b> allow an increase in the cost to the Government for CAS-covered contracts.

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### Calculating Cost Impact

Under CAS, the contractor must notify the ACO of the effect on CAS-covered contract prices that will result from any cost accounting system change. Some contracts may have a cost increase while other contracts have a cost decrease. To consider the net effect on the sum of all contract prices, the contractor and the ACO must consider the net price increase/decrease.

COST IMPACT OF COST ACCOUNTING SYSTEM CHANGES ON COST-PLUS-FIXED-FEE CONTRACTS		
Contract Number	Effect of Accounting System Change on Contract Cost	Change in Cost to the Government
N00031-X1-C-0001	\$1,000,000	\$1,000,000
DLA0001-X2-0101	(\$5,000,000)	(\$5,000,000)
F33657-93-D-0141	\$4,000,000	\$4,000,000
Order Z-1234	\$500,000	\$500,000
NAS 0321-A-90-OA12	(\$100,000)	(\$100,000)
Net Change		\$400,000

In the above example, the net impact of the CAS change is an increase in cost to the Government of \$400,000. If the change had been required, the Government would owe the contractor an additional \$400,000. On the other hand, if the change were made as the result of a CAS noncompliance or was considered an undesirable change, the cost to the Government would not change, because the Government does not recognize increased costs in those situations.

The calculation of a net increase/decrease becomes more complicated when different contract types are involved. The table below provides an example that involves a mix of firm fixed-price contracts and cost-plus-fixed-fee contracts. In this example, it is clear that an increased cost on a cost-reimbursement contract is an increased cost to the Government. However, in the case of a firm fixed-price contract, a decreased cost to the contractor is an increased cost to the Government. The change in accounting procedures that reduces cost on a firm fixed-price contract results in a dollar-for-dollar increase in contractor profit. This windfall profit is a cost to the Government—a cost that the Government should not have to pay.

*(continued on next page)*

## Calculating Cost Impact

(continued)

COST IMPACT OF COST ACCOUNTING SYSTEM CHANGES			
Contract Number	Contract Type	Effect of Accounting System Change on Contract Cost	Change in Cost to the Government
N00031-X1-C-0015	CPFF	\$1,000,000	\$1,000,000
Purchase Order 4321	FFP	(\$500,000)	\$500,000
NAS 0321-A-X0-0A14	CPFF	(\$500,000)	(\$500,000)
F33657-X3-D-0141	FFP	\$400,000	(\$400,000)
Net Change			\$600,000

In this example, the change would result in a net increased cost to the Government of \$600,000.

### Required Accounting System Change

FAR 30.602-1

FAR 52.230-1

FAR 52.230-2

The solicitation provision at FAR 52.230-1, Cost Accounting Standards Notices and Certification, requires offerors to state whether or not the award of a contemplated contract would require a change to established cost accounting practices affecting existing contracts and subcontracts.

Contracts and subcontracts containing the provision at FAR 52.230-2, Cost Accounting Standards, may require equitable adjustments to comply with new or modified CAS. Adjustments are limited to contracts and subcontracts awarded before the effective date of the new or modified Standard. Under that provision, a new or modified Standard becomes applicable prospectively to existing CAS-covered contracts when a new contract containing FAR 52.230-2 is awarded on or after the effective date of the new or modified Standard.

FAR 52.230-5

Under FAR 52.230-5, Administration of Cost Accounting Standards, a proposal for equitable adjustment should be presented to the cognizant ACO (contracting officer responsible for CAS administration) and auditor within 60 days of contract award causing the change.

*(Topic continued on next page)*

NEGOTIATING THE COST IMPACT OF A REQUIRED CHANGE	
Step	ACO Action
1	Request the contractor to submit a description of any required change in cost accounting practices within 60 days (or other mutually agreed to date) after award of the contract requiring the change.
2	Review the proposed change for adequacy and compliance. If the description of the change meets both tests, notify the contractor and request submission of a cost impact proposal.
3	Analyze the cost impact proposal and develop a negotiation position on the net cost impact of the change (increases and decreases) on all CAS-covered contracts and subcontracts (considering input from the cognizant auditor and other available information).
4	Negotiate either a net increase or decrease to the existing CAS-covered contracts. If an agreement cannot be negotiated, you may make a unilateral adjustment, subject to contractor appeal as provided for in FAR 52.233-1, Disputes.
5	After negotiation, execute supplemental agreements for CAS-covered contracts (ACO's own agency contracts) and send copies of the negotiation memorandum to contracting officers from other agencies. The contracting officers for contracts from other agencies are required by FAR 30.602-1(c)(1)(ii) to honor the ACO's agreement and issue their own supplemental agreements in the negotiated amount.

Voluntary  
Accounting  
System Change

FAR 52.230-5

The provision at FAR 52.230-5, Administration of Cost Accounting Standards, requires the contractor to notify the ACO and submit a description of any voluntary cost accounting practice change not less than 60 days (or such date as mutually agreed to) before implementation of the voluntary change.

FAR 30.602-3

As described earlier in this Section, a voluntary change may or may not be desirable to the Government.

- If the ACO determines that the change is desirable and not detrimental to the Government, the ACO may negotiate either an increase or decrease in the net cost to the Government as a result of the change.
- If the ACO does not determine that the change is desirable to the Government, the ACO shall not consider an adjustment that will result an increase in the net cost to the Government, but may negotiate adjustments that will result in a net decrease to the Government.

*(Topic continued on next page)*

Voluntary  
Accounting  
System Change  
(continued)

The table below outlines the general steps involved in negotiating the cost impact of a voluntary change.

NEGOTIATING THE COST IMPACT OF A VOLUNTARY CHANGE	
Step	ACO Action
1	If you become aware of a proposed change, you may remind the contractor that FAR 30.602-3(b) requires that the firm submit a description of any voluntary change in cost accounting practices within 60 days (or other mutually agreed to date) before implementation of the change.
2	Review the proposed change for adequacy and compliance. If the description of the change meets both tests, notify the contractor and request submission of a cost impact proposal.
3	Analyze the cost impact proposal and develop a negotiation position on the net cost impact of the change (increases and decreases) on all CAS-covered contracts and subcontracts considering input from the cognizant auditor and other available information. If the net impact of the change is an increase in cost to the Government, establish a position on whether or not the change is desirable. <ul style="list-style-type: none"> <li>• If the change is desirable, you may negotiate net cost decreases or increases.</li> <li>• If the change is not considered desirable, do not negotiate cost increases.</li> </ul>
4	Negotiate an appropriate change (increase or decrease for desirable changes, decrease for undesirable changes) to the cost of existing CAS-covered contracts. If an agreement cannot be negotiated, you may make a unilateral adjustment, subject to contractor appeal as provided for in FAR 52.233-1, Disputes.
5	After negotiation, execute supplemental agreements for CAS-covered contracts (ACO's own agency contracts) and send copies of the negotiation memorandum to contracting officers from other agencies. The contracting officers for contracts from other agencies are required by FAR 30.602-1(c)(1)(ii) to honor the ACO's agreement and issue their own supplemental agreements in the negotiated amount.

CAS  
Noncompliance

FAR 30.202-6(b)

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A contracting officer normally cannot award a CAS-covered contract that requires the contractor to provide a Disclosure Statement until the cognizant ACO has determined, with assistance from the cognizant auditor, that the Disclosure Statement is adequate. The written determination of Disclosure Statement adequacy is not an approval of the contractor's accounting practices, it is only a determination that it adequately describes the contractor's practices.

After the ACO determines that the Disclosure Statement is adequate, the ACO must consider the contractor's CAS compliance. Again, the cognizant auditor serves as the ACO's primary advisor.

The contractor's noncompliance with CAS requirements can be identified during this initial review or during contract administration. If the ACO determines that the contractor's accounting system does not comply with CAS requirements, FAR 52.230-5, Administration of Cost Accounting Standards, requires the contractor to submit a proposed change in cost accounting practices.

FAR 52.230-2

Under the Cost Accounting Standards clause, the contractor must agree to an adjustment in contract price or a cost allowance, if the contractor fails to comply with an applicable standard or to follow any cost accounting practice consistently and such failure results in increased cost to the Government. Adjustments must provide for recovery of increased costs and interest thereon computed at the annual rate established under Section 6621 of the Internal Revenue Code of 1986.

FAR 30.602-2

The table on the next page outlines the general steps involved in negotiating the cost impact of CAS noncompliance.

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NEGOTIATING THE COST IMPACT OF CAS NONCOMPLIANCE	
Step	ACO Action
1	Within 15 days of receipt of a report of alleged noncompliance from the auditor, make an initial finding of compliance or noncompliance and notify the auditor.
2	If you make an initial finding of noncompliance, immediately notify the contractor in writing of the exact nature of the noncompliance and allow the contractor 60 days within which to agree or to submit reasons why the existing practices are considered to be in compliance.
3	If the contractor disagrees with the initial finding of noncompliance, review the reasons why the contractor considers the current practices to be in compliance and make a determination of compliance or noncompliance. If you find that the accounting system is not in compliance, require the contractor to submit a description of any change needed to correct the noncompliance.
4	If the contractor agrees with the initial finding of noncompliance in Step 2 or you made a determination of noncompliance in Step 3, review the proposed change for adequacy and compliance. If the description of the change meets both tests, notify the contractor and request submission of a cost impact proposal.
5	Analyze the cost impact proposal and develop a negotiation position on any cost increase to the Government on all CAS-covered contracts and subcontracts considering input from the cognizant auditor and other available information. Separately identify any interest due on any costs paid to the contractor as a result of the noncompliance.
6	Negotiate an appropriate change decrease in the cost of existing CAS-covered contracts. If an agreement cannot be negotiated, you may make a unilateral adjustment, subject to contractor appeal as provided for in FAR 52.233-1, Disputes.
7	After negotiation, execute supplemental agreements for CAS-covered contracts (ACO's own agency contracts) and send copies of the negotiation memorandum to contracting officers from other agencies. The contracting officers for contracts from other agencies are required by FAR 30.602-1(c)(1)(ii) to honor the ACO's agreement and issue their own supplemental agreements in the negotiated amount.

Remedies for  
Contractor Failure  
to Make  
Submissions

FAR 30.602-1(d)  
FAR 30.602-2(d)  
FAR 30.602-3(d)  
FAR 52.230-5  
FAR 52.233-1

Under the contract provision Administration of Cost Accounting Standards, the contractor must notify the ACO of any change in the firm's cost accounting practice. The notification must include the following information:

- A description of the change.
- The total potential impact of the change on contracts containing the CAS clause.
- The general dollar magnitude of the change, including the potential shift of costs between CAS-covered contracts by contract type and other business activity.
- Potential impact on funds of the various agencies/departments affected.

*(Topic continued on next page)*

Remedies for  
Contractor Failure  
to Make  
Submissions  
(continued)

DEADLINES FOR TIMELY NOTIFICATION	
Type of Change	Deadline for Notification
Required to comply with a new or revised Standard. FAR 52.230-5(1)	60 days (or such other date as may be mutually agreed to) after award of the contract requiring the change.
Voluntary change. FAR 52.230-5(2)	Not less than 60 days (or such other date as may be mutually agreed to) prior the effective date of the proposed change.
Required to correct CAS noncompliance.	<ul style="list-style-type: none"> <li>60 days (or such other date as may be mutually agreed to) after agreement with the initial finding of noncompliance, or</li> <li>In the event that the contractor disagrees with the initial finding of noncompliance, 60 days after the contractor is notified by the ACO of the determination of noncompliance.</li> </ul>

If the contractor fails to meet the notification deadline, the ACO must take action to protect the Government's interests:

Step 1. Estimate (with assistance from the cognizant auditor) the general dollar magnitude of the change or proposed change on all CAS-covered contracts and subcontracts affected by the change. In estimating the general magnitude of the change, do **not** consider any cost changes to higher-tier subcontracts or contracts over and above the cost of the subcontract adjustment.

Step 2. If the estimate indicates that there is a net amount due the Government, the ACO may withhold up to 10 percent of each payment due the contractor on CAS-covered contracts.

Step 3. If the contractor has not made the required submission before the total estimated amount is withheld and the ACO determines that an adjustment is appropriate, the ACO must:

- Request the contractor to agree to a cost or price adjustment based on the estimate.
- Advise the contractor that, in the event agreement on a cost or price adjustment is **not** reached within 20 days, the ACO may make a unilateral adjustment subject to contractor appeal under the contract Disputes clause.

*(Topic continued on next page)*

Remedies for  
Contractor Failure  
to Make  
Submissions  
(continued)

Step 4. If the contractor fails to agree with the cost or price adjustment or make the required submission, the ACO should make a unilateral price adjustment (unless another course of action is deemed more appropriate).

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## 4.3 Reviewing Cost Estimating Systems

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### Introduction

FAR 15.811  
DFARS 252.215-  
7002

The consistent preparation of proposals using an acceptable estimating system benefits both the Government and the contractor by increasing the accuracy and reliability of individual proposals. An estimating system is the contractor's policies, procedures, and practices for generating estimates of costs and other data included in proposals submitted to customers in the expectation of receiving contract awards. It includes the contractor's:

- Organizational structure.
  - Established lines of authority, duties, and responsibilities.
  - Internal controls and managerial reviews.
  - Flow of work, coordination, and communications.
  - Estimating methods, techniques, accumulation of historical costs, and other analyses used to generate cost estimates.
- 

### Identifying Potential Problems

Significant estimating deficiencies are often the result of poorly constructed estimating systems. A good system integrates all aspects of the contractor's operation into an effective and trackable information flow. Some of the areas that may be included are: cost accounting, production management, budgeting, subcontracting/purchasing, inventory control, and strategic business planning.

DFARS 215.811-  
70(d)(3)

The following have been identified by the DoD as conditions that may produce or lead to significant estimating deficiencies and excessive costs to the Government:

- Failure to ensure that historical data on the same or similar work are available to and utilized by cost estimators where appropriate.
- Continuing failure to analyze material costs or failure to perform subcontractor cost reviews as required.
- Consistent absence of analytical support for significant proposed costs.
- Excessive reliance on individual personal judgment where historical experience or commonly used standards are available.
- Recurring significant defective pricing findings within the same cost element(s).

*(Topic continued on next page)*

### Identifying Potential Problems (continued)

- Failure to integrate relevant parts of other management systems (e.g., production or cost accounting) with the estimating system so that the ability to generate reliable cost estimates is impaired.
- Failure to provide established policies, procedures, and practices to persons responsible for preparing and supporting estimates.

Other indicators of problems include:

- Management information that does not match the data in proposals.
- Standards for labor and material costs that are not current.
- Changes in make-or-buy decisions not disclosed.
- Inappropriate or misleading sampling techniques.

### Review Situations

FAR 15.811

Estimating system reviews may be accomplished as part of:

- An ongoing program established by the cognizant auditor:
- Routine field pricing support.
- A contractor estimating system review program conducted by the contracting officer.

**Auditor Program:** Cognizant auditors, when appropriate, establish and manage regular programs for reviewing selected contractor's estimating systems or methods in order to:

- Reduce the scope of reviews to be performed on individual proposals.
- Expedite the negotiations process.
- Increase the reliability of proposals.

The auditor sends a copy of the estimating system survey report and a copy of the official notice of corrective action required to each contracting office and contract administration office having substantial business with that contractor. Significant deficiencies not corrected by the contractor shall be considered in subsequent proposal analyses and negotiations.

FAR 15.805-5(e)(7)

**Field Pricing Support:** Auditors requested to provide field pricing support are required by FAR 15.805-5(e)(7) to notify you if they believe that the offeror's estimating methods are inadequate to support the proposal or permit satisfactory administration of the contract contemplated.

*(Topic continued on next page)*

Review Situations  
(continued)

DFARS 215.811.70

**Contracting Officer System Review.** An agency may require the contracting officer to establish a program of periodic estimating system surveys. For example, in the DoD, ACOs are responsible for surveying the adequacy of the estimating system of any contractor that meets the following requirements:

- During its preceding fiscal year, the contractor received DoD prime contracts or subcontracts totaling \$50 million or more for which certified cost or pricing data were required.
- During its preceding fiscal year, the contractor received DoD prime contracts or subcontracts totaling \$10 million or more, but less than \$50 million, for which certified cost or pricing data were required, and the contracting officer with the concurrence of the ACO determines that a review is in the best interest of the Government.

The audit and contract administration activities conduct a joint review. The auditor is the team leader but the ACO has responsibility for determining estimating system adequacy.

Conducting a  
Review

FAR 15.811

Personnel conducting an estimating system review should consider the following:

- The source of data for estimates and the procedures for ensuring the data are accurate, complete, and current.
- The documentation developed and maintained in support of the estimate.
- The assignment of responsibilities for originating, reviewing, and approving estimates.
- The procedures followed for developing estimates for direct and indirect cost elements.
- The extent of coordination and communication between organizational elements responsible for the estimate.
- Management support, including estimate approval, establishment of controls, and training programs.

Resolving  
Deficiencies

Whenever an estimating system review is conducted, the auditor will document the findings and recommendations and provide them to the contracting officer (the ACO when one is assigned). Significant deficiencies not corrected must be considered in subsequent proposal analysis and negotiations.

Based on the audit report and any other available information, you will notify the contractor of the results following agency guidelines.

*(Topic continued on next page)*

Resolving  
Deficiencies  
(continued)

For example, under the DoD Contracting Officer System Survey program described above, the ACO must follow the steps below in disposing of survey team findings.

DFARS 215.811-  
70(f)

RESOLVING ESTIMATING SYSTEM DEFICIENCIES	
Step	Action
1. Report Survey Team Findings.	The auditor will document the findings and recommendations of the survey team in a report to the ACO. If there are significant estimating deficiencies, the auditor will recommend disapproval of all or part of the estimating system.
2. Initial Notification to the Contractor.	Provide a copy of the survey team report to the contractor and, unless there are no deficiencies identified in the report, ask the contractor to submit a written response within 30 days, or a reasonable extension thereof. <ul style="list-style-type: none"> <li>If the contractor agrees with the report, the contractor has 60 days from the date of initial notification to correct deficiencies or submit a corrective action plan showing milestones and actions to eliminate the deficiencies.</li> <li>If the contractor disagrees, the contractor should provide rationale in its written response.</li> </ul>
3. Evaluation of contractor's response.	In consultation with the cognizant auditor, evaluate the contractor's response to determine whether: <ul style="list-style-type: none"> <li>The existing system contains deficiencies which need correction.</li> <li>The deficiencies are significant deficiencies that should result in disapproval of all or a portion of the contractor's estimating system.</li> <li>The contractor's proposed corrective actions are adequate to eliminate the deficiency.</li> </ul>
4. Contractor Notification of the ACO determination.	Notify the contractor and the auditor of the determination and, if appropriate, of the Government's intent to disapprove all or selected portions of the system. The notice must: <ul style="list-style-type: none"> <li>List the cost elements covered.</li> <li>Identify any deficiencies requiring correction.</li> <li>Require the contractor to correct the deficiencies within 45 days or submit an action plan showing milestones and actions to eliminate the deficiencies.</li> </ul>
5. Notice of disapproval.	If the contractor has neither submitted an acceptable corrective action plan nor corrected significant deficiencies within 45 days, disapprove all or selected portions of the contractor's estimating system. The disapproval must: <ul style="list-style-type: none"> <li>Identify the elements covered.</li> <li>List the deficiencies which prompted the disapproval.</li> <li>Be sent to the cognizant auditor, and each contracting and contract administration office having substantial business with the contractor.</li> </ul>
6. Monitoring contractor corrective action.	With the auditor, monitor the contractor's progress in correcting deficiencies. If the contractor fails to make adequate progress, take whatever action is necessary to ensure that the contractor corrects the deficiencies. Examples of the action that you can take include: <ul style="list-style-type: none"> <li>Bring the issue to the attention of higher level management.</li> <li>Reduce or suspend progress payments.</li> <li>Recommend that potential contracts not be awarded to the contractor.</li> </ul>
7. Withdraw estimating system disapproval.	Withdraw the estimating system disapproval when you determine that the contractor has corrected the significant system deficiencies. Notify the contractor, the auditor, and affected contracting and contract administration activities of the withdrawal.

### Protect the Government's Interests

If you are responsible for negotiation of a proposal generated by an estimating system with an identified deficiency, you must determine whether the deficiency impacts your negotiations. If it does not, proceed with negotiations as usual. If it does, you should consider other actions to protect the Government's interests. The table below identifies some of the actions that you should consider:

NEGOTIATION ALTERNATIVES TO PROTECT THE GOVERNMENT'S INTERESTS	
<p>If the contractor's estimating system has identified deficiencies, consider the following alternatives...</p> <p>DFARS 215.811-70(g)(2)</p>	<p>The following points should be considered as you consider each alternative...</p>
Allow additional time for proposal preparation/revision.	If the contractor can correct the deficiencies in the proposal in a reasonable amount of time, this option may be appropriate.
Consider changing the contract type.	Changing contract type (e.g., from FFP to FPIF) may reduce the risk to the Government. However all factors that lead to contract type selection should be considered. That may require reaccomplishing some elements of acquisition planning.
Perform additional cost analysis on suspected cost areas.	To protect the Government's interests and dig deeper into the suspected problem area, additional analysis should be performed. However, this does not excuse the contractor from making the necessary improvements.
Segregate suspected cost elements in a cost-reimbursement line item.	While this may work in some cases, there are several potential problems: possible Cost Accounting Standards violation, two monthly billings - one for progress payments the other for the cost-reimbursement item, long delays in contract closeout since the reimbursable item will require final closeout rates.
Reduce the fee/profit objective.	Proposal preparation can be considered in formulating a fee/profit objective. However, reduced fee/profit is not a substitute for possibly allowing unreasonable or unallowable costs.
Insert a reopener clause covering the suspected cost elements.	A reopener for an estimating system deficiency should identify the dollars in question and the impact on total price. (However, reopener clauses must be carefully employed and properly administered.) The contracting officer who incorporates such a clause into the contract is responsible for negotiating adjustments required by the clause.

Monitoring  
Implementation

The auditor and contracting officer are responsible for monitoring contractor corrective action plan progress. Should the contractor fail to make adequate progress in correcting deficiencies, several options are available:

DFARS 215.811-  
70(f)(6)

- Highlight the deficiencies in audit and pricing reports.
  - Elevate the matter to higher level contractor management.
  - Recommend that contracting officers not award contracts until identified deficiencies are corrected.
  - Consider reducing or suspending progress payments until identified deficiencies are corrected.
-

## 4.4 Recognizing Potential Indicators of Fraud and Other Wrongdoing

---

### Introduction

DCAM 4-702.1

When reviewing a firm's pricing and accounting practices, you may encounter information constituting evidence or causing suspicion of fraud or other wrongdoing. Sources of such information may include company employees, disgruntled participants in the wrongdoing, or others. Allegations may be made by letter, telephone, personal visit, or through a third party.

For the purpose of this section, the term "fraud and other wrongdoing" means any willful or conscious wrongdoing, including, but not limited to, acts of cheating or dishonesty which cause (or contribute to) a loss or injury to the Government.

Examples of fraud and other wrongdoings:

- Falsification of documents such as time cards or purchase orders.
  - Charging personal expenses to Government contracts.
  - Submitting false claims such as invoices for services not performed or materials not delivered.
  - Intentional mischarging or misallocation of costs
  - Deceit by suppression of the truth.
  - Bribery.
  - Payments that violate the Foreign Corrupt Practices Act.
  - Theft.
  - A Government employee acquiring a financial interest in or seeking employment with a contractor over whom the employee exercises oversight.
  - Kickbacks.
  - Unlawful or fraudulent acts resulting from accounting classification practices designed to conceal the true nature of expenses (e.g., classifying unallowable advertising or entertainment costs as office supplies).
  - Product substitution or false certification that tests were performed.
  - Violation of other laws or contract terms that might increase costs to the Government (e.g., environmental laws).
-

Indicators and  
Scenarios of  
Potential Fraud

DoD IG TINA  
Handbook, App B  
ISBN 0-16-041723-6

Contracting personnel must be particularly alert to potential incidents of contractor fraud—incidents where the contractor knowingly makes a false statement or a false claim with the intent of defrauding the Government. The Department of Defense Inspector General (DODIG) has identified 29 indicators and scenarios of potential fraud related to defective pricing.

- Alteration (without notice to the Government) or falsification of supporting data.
- Failure to update cost or pricing data even though it is known that past activity showed that costs or prices have decreased.
- Failure to make complete disclosure of data known to responsible contractor personnel.
- Distortion of the overhead accounts or baseline information by transferring charges or accounts that have a material impact on Government contracts.
- Failure to correct in a timely manner, known estimating or pricing system deficiencies which directly and repeatedly result in defective pricing.
- Repeated denial by the responsible contractor employees of the existence of historical records that are subsequently found.
- Proposing one vendor, while intending, at the time of that proposal, to use another lower priced vendor.
- Intentional failure to update cost or pricing data when clearly required by law or regulation.
- Selectively disclosing work orders with higher costs while knowingly not including additional pertinent work orders with lower costs.
- Altering the dates on material or subcontract purchase orders from dates prior to the prime contract negotiations to dates after the negotiations.
- Repeated instances of lost or destroyed records (other than those destroyed pursuant to the contractor's normal document destruction policy) which would provide supporting details for proposed costs that were based on experience.
- Fabrication of supporting information for a proposed cost factor when no historical information is actually collected or segregated for that type of expense.
- An undisclosed change in a make-versus-buy decision which is known by the contractor prior to the conclusion of final price negotiations.

*(Topic continued on next page)*



Indicators and  
Scenarios of  
Potential Fraud  
(continued)

- Not disclosing total company material requirements for items qualifying for quantity/sale discounts, thereby knowingly proposing a higher unit price than the combined purchase will actually generate.
- Claiming an exemption from the submittal of cost or pricing data based on catalog or market pricing when the company knows the end user of the item is always the Government.
- Proposing an increase in price due to a break in production when the contractor knows, based on the proposed delivery schedule, that no break will occur.
- Protracted delay in the release of data to the Government to which the Government is clearly entitled, under the law and regulations existing at the time of the initial request for the data, for the purpose of avoiding a reduction in negotiated price.
- Including rates in the proposal, such as insurance or workman's compensation, which are deliberately increased or inflated above the contractor's actual forecasted rates.
- Intentionally duplicating costs by proposing them as both direct and indirect.
- Consciously proposing items the contractor knows, or should know, are obsolete or unneeded to perform the contract.
- Not disclosing inventory that the contractor knew, should have known, or suspected was excess and available for use on later contracts.
- Deliberately not disclosing known or company-available actual costs that were reasonably available prior to the conclusion of price negotiations for a follow-on contract.
- Proposing a purchase at price (subcontract or interorganizational transfer) for a portion of the contract effort when the contractor knows, at the time of proposing, the effort will be performed via an interorganizational transfer at cost
- Willful, knowing, or reckless disregard of the contractor's established estimating practices.
- Suppressing internal/external studies or reports that do not support the proposed costs.
- Commingling work orders with other work orders to hide productivity improvements or deliberately distorting the labor-hours incurred for a particular series of work orders.

*(Topic continued on next page)*

Indicators and  
Scenarios of  
Potential Fraud  
(continued)

- Requesting an economic price adjustment clause for material that has already been purchased.
- Submitting false documents.
- Intentionally failing to disclose internal documents on vendor discounts that constitute cost or pricing data and were reasonably available prior to the conclusion of price negotiations.

Persons and  
Situations  
Involved

DCAM 4-702.1

Allegations of fraud or other wrongdoing may involve the acts of:

- Government employees (military or civilian) in their relations with the Government.
- Government employees (military or civilian) in their relations with individuals or firms.
- Individuals or firms in their business relations with the Government.
- Individuals or firms in their business relations with other individuals or firms doing business with the Government.

Responsibility to  
Disclose

Executive Order  
12674

Executive Order 12674, Principles of Ethical Conduct for Government Officers and Employees (April 12, 1989), establishes principles of ethical conduct for all Government personnel. In part that order reads “Employees shall disclose waste, fraud, abuse, and corruption to appropriate authorities.”

FAR 1.602-2

Contracting personnel have a special responsibility to safeguard the interests of the United States in its contractual relationships. That includes a responsibility to ensure that all requirements of applicable laws, executive orders, and regulations are met during the contracting process.

## QUESTIONS AND PROBLEMS

1. Identify three sources of information concerning accounting system adequacy.
2. When evaluating accounting system adequacy, you may determine that the accounting system is:
3. Are auditors providing field pricing support required to notify you if they believe that the offeror's estimating methods are inadequate to support the proposal?
4. Identify four actions that you should consider if a contractor fails to make progress in correcting estimating system deficiencies.
5. If the contractor must make an accounting system change to comply with a new Cost Accounting Standard, could the firm be entitled to an equitable adjustment?
6. Identify four types of accounting system changes under CAS.
7. Do you have any remedy if a contractor refuses to submit a cost impact proposal to correct a CAS noncompliance.

## STEVENS CORPORATION

Stevens Corporation has three categories of engineering effort: Paid Projects, Independent Research and Development (IR&D), and Manufacturing Engineering.

- **Paid Projects Engineering** are firm fixed-price contracts for product research and improvement. The required tasks are carefully spelled out in the contract. A Job Order Number is assigned to the contract and all effort for the contract is charged to that job order.
- **IR&D Engineering** is specific identified research and development undertaken and managed independently by Stevens. Engineers working on IR&D projects charge to the specific charge number assigned to the project, and the cost is allocated to all products using a Total Cost Input base. The total cost allowable is limited by an agreement with the Government.
- **Manufacturing Engineering** is the engineering effort dedicated to keeping the assembly line moving smoothly. Manufacturing Engineering is charged to Manufacturing Overhead. That pool is then allocated across all manufacturing effort.

**Auditor's Finding.** In June 19X4, the cognizant auditor issued a finding of noncompliance with CAS 418, Allocation of Direct and Indirect Costs. The amount questioned is \$2,500,000.

In the finding, the auditor alleges that Manufacturing Engineers are working on Paid Projects but the costs are being charged to Manufacturing Overhead. For example, a Paid Project engineer runs into a problem, and asks a Manufacturing Engineer for advice and assistance. Together, the two engineers may spend two or three hours working on the problem. It is the auditor's position that, in this situation, the Manufacturing Engineer's time should be charged to the appropriate Paid Project.

**Government Engineers' Position.** You consulted Government engineers and they advise that the problem is not as clear cut as the auditor describes. There are times when the tasks of the Manufacturing Engineers and the Paid Projects Engineers logically overlap. For example, it takes considerable time to setup a production run. Improving production methods is part of the Manufacturing Engineer's job. Product improvement may be part of a Paid Project. Methods improvement and product improvement often go hand-in-hand. Logically, both Manufacturing Engineers and Paid Project Engineers should work together to attain the best product at the lowest cost to the Government.

1. What would be the effect on indirect costs in the current and future periods, if the auditor's position is adopted?
2. What alternative courses of action should you consider in response to the audit finding?

## Cases

3. What information would be useful in selecting the appropriate course of action?
4. Which course of action would you select? Why?

## GEONE CORPORATION

In 19X2, the Geone Corporation began purchasing and installing a new telephone and microwave system at the Waynesville and Yellow Springs sites.

- At Waynesville, the installation is a conversion from leased equipment to company-owned equipment.
- At the recently leased Yellow Springs site there is no existing equipment to replace.

**Estimated Costs.** Geone provided the cognizant auditor with the total estimated costs of the system as well as a breakdown of the costs to be capitalized (depreciated) and the costs to be expensed (charged to the current year):

Capitalized Costs:	\$7,000,000
Expensed Costs:	
Wayneville Site	\$4,200,000
Yellow Springs Site	\$2,000,000
Software (both sites)	<u>\$1,600,000</u>
<b>Total:</b>	<b>\$14,800,000</b>

Geone planned to capitalize the major components (e.g., switching equipment, processors, electronic gears) but expense all remaining items (e.g., 15,000 telephones, wiring, installation, and computer software).

In April 19X2, the cognizant auditor issued an audit report stating that Geone would be in noncompliance with CAS 404, Capitalization of Capital Assets, if it failed to capitalize the entire system. The auditor's position is that the items the contractor proposes to expense are "original complement of low cost equipment" and must be capitalized, in accordance with FAR 9904-404(a)(4). FAR examples of "original complement of low cost equipment" include: books in a new library; impact wrenches in a new factory, work benches and racks in a new production facility; and furniture and fixtures in a new office building.

**Audit Findings.** The auditor's opinion is that the purchase of telephones should be viewed as an "initial outfitting" of capitalized components of the new system. The auditor's position is based on the assumption that the contractor is installing a telephone system and all parts are necessary to produce a complete working system.

**Contractor's Position.** The contractor states that it followed its disclosed accounting practices. Geone's written policy states that bulk tangible fixed assets with an acquisition cost of at least \$1,000 and a minimum service life of two years are capitalized. Therefore, the major components of the telephone system were capitalized. However, the telephones and remaining items (e.g., wires and software) did not meet the \$1,000 threshold and were therefore expensed.

Geone states that the telephones, wires, software, and other items should not be considered as a single tangible capital asset. They are replacements, not the initial outfitting of new facilities.

**Legal Counsel's Position.** Your agency's legal counsel's opinion is that there is little language in CAS 404 that would require Geone to account for the telephones and microwave system in the manner set forth by the auditor. They suggested that you contact the audit organization to determine if they had ever encountered a similar problem with other contractors, and if they had how the problem was resolved.

When the audit organization could not provide information on any similar cases, your legal counsel suggested that the audit organization reassess its position. In the legal counsel's opinion the auditor's position is very weak.

1. What would be the effect on indirect costs in the current and future periods, if the auditor's position is adopted?
2. What alternative courses of action should you consider in response to the audit finding?
3. What additional information would be useful in selecting the appropriate course of action?
4. What action would you select? Why?

## ACCOUNTING CHANGE

As the administrative contracting officer (ACO) responsible for CAS administration, you recently received two proposals for equitable adjustment to CAS-covered contracts because of accounting system changes.

1. Gillgood Systems proposed an equitable adjustment because an accounting system change is required to comply with a new Standard. Use the following table to calculate the effect of the change on CAS-covered contracts:

COST IMPACT OF MANDATORY COST ACCOUNTING SYSTEM CHANGE			
Contract Number	Contract Type	Effect of Accounting System Change on Contract Cost	Change in Cost to the Government
N00031-X7-C-0235	FFP	\$452,700	
F33456-X8-D-0841	CPFF	\$605,400	
MCO4503-9943	FFP	(\$257,000)	
Purchase Order 654211	FFP	\$309,800	
NAS 0321-A-X0-0A14	CPFF	(\$45,600)	
Net Change			

2. The Notzinger Corporation has proposed a voluntary change that the auditor considers detrimental to the overall effectiveness of the firm's accounting system. You agree with the auditor's recommendation. What should be the net effect of the change on cost to the Government?

COST IMPACT OF VOLUNTARY COST ACCOUNTING SYSTEM CHANGE			
Contract Number	Contract Type	Effect of Accounting System Change on Contract Cost	Change in Cost to the Government
Purchase Order Q86482	FFP	\$205,700	
F33456-X8-D-0681	CPFF	\$568,450	
MCO4503-94321	CPFF	(\$342,000)	
NAS 0321-A-X5-0A56	FFP	\$70,560	
N00031-X6-C-0764	FFP	(\$20,500)	
Net Change			



## **LLOYD LIMITED**

Lloyd is a medium-sized business manufacturing products for both Government and commercial customers. It has a history of not providing detailed auditable cost or pricing data to the Government prior to negotiations. The lack of supporting data gives the impression that the contractor is supporting costs after-the-fact, rather than developing documentation when the proposal is developed. The contractor provides data requested by the Government just prior to the close of negotiations.

You are currently reviewing a \$7 million cost proposal. Material estimates totaling \$600,000 are based on verbal quotes, rough order of magnitude estimates, and unsubstantiated costs. The auditor has recommended a 13 percent decrement factor. You feel that the auditor's recommendation may be reasonable, but you firmly believe that the contractor has additional information that negotiators intend to hold until the last possible minute.

1. Evaluate the strengths and weaknesses of the following action alternatives.
  - a. Question and disallow all proposed material costs.
  - b. Return the proposal to the contractor, because it fails to meet cost or pricing data requirements established in FAR 15.
  - c. Apply the audit-recommended decrement factor of 13 percent to the proposed material cost.
2. Which of the three alternatives would you select? Why?

## COLORFUL SITUATIONS

What action would you take in each of the following situations?

1. You learn from a friend at the Greene Corporation that the company failed to provide available cost or pricing data. On the final day of negotiations, Greene estimators provided a list of material items with price reductions totaling \$50,000 to the company's lead negotiator. The price reductions were never mentioned during negotiations or in the firm's Certificate of Current Cost or Pricing Data.
2. Blue Services used judgment to estimate the labor mix required to complete a service contract. However, it also provided historical cost data from several similar contracts. The data were clearly identified including a brief summary.
3. You are administering a contract for acquisition of a major system. The acquisition involves construction of several support facilities around the world. One facility has been under construction for some time, and you have processed over \$750,000 in cost vouchers. However, when you visit the site, there is nothing there except a beautiful green pasture.
4. The Contracting Officer's Technical Representative (COTR) reviews all cost vouchers from Brown Enterprises under an engineering services contract. On several occasions the COTR has identified substantial errors (e.g., \$2,000 for travel on a task that did not require travel). Each time Brown has corrected the error and resubmitted the voucher. Still the problem continues.
5. Grey Manufacturing does not perform an evaluation of subcontract proposals until after contract award. After contract award, reductions have been as much as 20 percent.

6. Garnet Services has a packing and crating contract in the warehouse facility of a remote agency site. Facility cleaning is not part of the contract. However, the lone Government employee at the site cannot keep it clean. To keep the operation running, the contractor cleans the facility and in return, the Contracting Officer's Technical Representative (COTR) certifies monthly that he received \$2,000 worth of packing and crating services that were not performed.

7. Redd Industries prepares most cost proposals using cost estimating relationships (CERs). In the face of declining costs, Redd has not updated its CERs with actual costs in more than two years. The auditor and contracting officer accept these proposals even though both know that the CERs have not been updated.

8. Violet Enterprises submitted a proposal which included an estimate of \$200,000 for 200 units of a major component. Violet currently has 250 units in inventory with a unit price of \$900 each. Because these inventory units are slated for other contracts, the Violet estimate for the new contract was based on supplier quotes, not the inventory price.

## **CHAPTER 5**

### **Recognizing and Adjusting for Defective Pricing**

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## LEARNING OBJECTIVES

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At the end of this  
Chapter

At the end of this chapter, you will be able to:

**Classroom Learning Objective 5/1**

Recognize indicators of potentially defective cost or pricing data and determine the need to request an audit of the data.

**Classroom Learning Objective 5/2**

Determine the extent and cost impact of Government reliance on defective cost or pricing data to develop the Government position regarding the downward adjustment required in a given procurement.

**Classroom Learning Objective 5/3**

Determine and implement the final price adjustment in a given procurement.

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## CHAPTER OVERVIEW

### In This Chapter

This chapter covers:

DESCRIPTION	SEE PAGE
Chapter Overview	5-4
5.1 Identifying Possible Defective Pricing	5-11
5.2 Developing the Government Position on Price Adjustment	5-14
5.3 Complete Settlement Action	5-25
Questions and Problems	5-28
Cases	5-30

### References

FAR	15.801	DFARS 215.804-7(b)(2)
	15.804-4	
	15.804-7	DoD IG TINA Handbook
	Table 15-2	
	33.210	DoD Directive 7640.2
	33.211	
	52.215-22	10 USC §2306A(d)(1)(B)
	52.215-23	
	52.215-24	
	52.215-25	

## CHAPTER OVERVIEW

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### Defining Defective Pricing

FAR 52.215-22(a)

Defective Pricing is any contracting action subject to the Truth in Negotiations Act (TINA) where the negotiated (other than sealed bidding procedure) contract price including profit or fee was increased by a significant amount for one of the following two reasons:

- The contractor or a subcontractor at any tier furnished the Government and the contracting officer relied upon Certified Cost or Pricing Data that were not accurate, complete, and current.
  - A subcontractor or a prospective contractor at any tier furnished certified cost or pricing data that were not accurate, complete, and current as certified in the contractor's Certificate of Current Cost or Pricing Data.
- 

### Defective Pricing Remedies

FAR 15.804-7  
FAR 52.215-22  
FAR 52.215-23  
FAR 15.804-8  
FAR 52.215-24  
FAR 52.215-25

In situations where defective pricing exists, the Government is entitled to a price adjustment, including profit or fee, of any significant amount by which the price was increased because of defective data. This entitlement is ensured by including in the contract one of the following clauses, Price Reduction for Defective Cost or Pricing Data or Price Reduction for Defective Cost or Pricing Data—Modifications.

The reach of the remedies extends to covered subcontractors through mandatory flowdown provisions.

In addition to any price adjustment, the Government is entitled to interest on any overpayments for supplies or services accepted by the Government that resulted from the defective pricing. On DoD contracts, the Government is also entitled to penalty amounts on certain of these overpayments.

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Requiring  
Certified Cost or  
Pricing Data

The following table summarizes the situations requiring Certified Cost or Pricing Data:

ARE CERTIFIED COST OR PRICING DATA REQUIRED WHEN THE CONTRACT PRICE..."				
TYPE OF CONTRACT ACTION	EXCEEDS THE THRESHOLD REQUIRING CERTIFICATION	EXCEEDS SAT* BUT NOT THE THRESHOLD REQUIRING CERTIFICATION	DOES NOT EXCEED SAT*	
New contract price proposal, including options priced in the contract	YES, unless the: <ul style="list-style-type: none"><li>• Proposal can be exempted based on adequate price competition, catalog pricing, market pricing, regulated pricing; or</li><li>• Requirement is waived. Note: A waiver granted to a prime contractor does not flow down to subcontractors.</li></ul>	Only if the contracting officer** documents the contract file to justify the requirement for cost or pricing data. Documentation must include: <ul style="list-style-type: none"><li>• The contracting officer’s written finding that certified cost or pricing data are necessary.</li><li>• The facts supporting the finding.</li><li>• Approval of the finding at a level above the contracting officer.</li></ul>	Never	
New subcontract price proposal, when cost or pricing data are required of the prime and higher tier subcontractors				
Contract modifications (considering the aggregate impact of price increases and decreases)	YES, unless the: <ul style="list-style-type: none"><li>• Modification can be exempted based on adequate price competition (e.g., see “Exercising an option ...” below), catalog pricing, market pricing, or regulated pricing; or</li><li>• Requirement is waived</li></ul>			
Subcontract modifications (considering the aggregate impact of price increases and decreases) when cost or pricing data are required of the prime and higher tier subcontractors				
Negotiated final pricing actions	YES, for fixed-price incentive and fixed-price redeterminable contracts			
Contract terminations	YES.			
Partial contract terminations	YES, where the settlement amount and estimate to complete portion exceed the mandatory threshold.			
Exercising an option priced as part of the original contract.	NO.			
Final overhead for use in cost and incentive contracts	YES, along with a signed agreement, a certificate is required.			

*\*Simplified Acquisition Threshold*

*\*\*For subcontracts, includes prime contractor or higher-tier subcontractor personnel responsible for determining price reasonableness.*



## Certificate of Current Cost or Pricing Data

FAR 15.804-4
--------------

When certified cost or pricing data are required, you must require the contractor to execute the Certificate of Current Cost or Pricing Data shown below and include the executed certificate in the contract file. Only require one Certificate and require the contractor to submit it as soon as practicable after price agreement is reached.

### Certificate of Current Cost or Pricing Data

This is to certify that, to the best of my knowledge and belief, the cost or pricing data (as defined in section 15.801 of the Federal Acquisition Regulation (FAR) and required under FAR subsection 15.804-2) submitted, either actually or by specific identification in writing, to the contracting officer or to the contracting officer's representative in support of \_\_\_\_\_\* are accurate, complete, and current as of \_\_\_\_\_\*\*. This certification includes the cost or pricing data supporting any advance agreements and forward pricing rate agreements between the offeror and the Government that are part of the proposal.

Firm \_\_\_\_\_

Signature \_\_\_\_\_

Name \_\_\_\_\_

Title \_\_\_\_\_

Date of Execution\*\*\* \_\_\_\_\_

\* Identify the proposal, quotation, request for price adjustment, or other submission involved, giving the appropriate identifying number (e.g., request for proposal number).

\*\* Insert the day, month, and year when price negotiations were concluded and price agreement was reached.

\*\*\* Insert the day, month, and year of signing, which should be as close as practicable to the date when the price negotiations were concluded and agreement was reached on contract price.

**The offeror must use the exact language in FAR 15.804-4. Any variation from the FAR language could potentially invalidate the certification.**

*(Topic continued next page)*

Certificate of  
Current Cost or  
Pricing Data  
(continued)

For example, suppose an offeror replaced part of the last sentence “...includes the cost or pricing data supporting any advance agreements and forward pricing rate agreements between the offeror and the Government that are part of the proposal,” with the following words “...includes the cost or pricing data supporting estimates of all direct labor hours and direct material costs in the proposal.” The offeror may have made the change innocently thinking that forward pricing rate agreements had their own certification. However, if the Government accepted the modified certification and labor rates or overhead rates were later found to be based on defective data, the Government may have unwittingly invalidated a legitimate defective pricing case.

FAR 15.801

**Cost or Pricing Data.** Cost or pricing data are all facts as of the date of price agreement that prudent buyers and sellers would reasonable expect to affect price negotiations significantly. Cost or pricing data are factual, not judgmental, and are therefore verifiable. While they do not indicate the accuracy of the prospective contractor’s judgment about estimated future costs or projections, they do include the data forming the basis for that judgment. Cost or pricing data are more than historical accounting data; they are all the facts that can be reasonably expected to contribute to the soundness of estimates of future costs and to the validity of determinations of costs already incurred. They also include:

- Vendor quotations.
- Nonrecurring costs.
- Information on changes in production methods and in production or purchasing volume.
- Data supporting projections of business prospects and objectives and related operations costs.
- Unit-cost trends such as those associated with labor efficiency.
- Make-or-buy decisions.
- Estimated resources to attain business goals.
- Information on management decisions that could have a significant bearing on costs.

FAR 15.804-4(b)

**Judgment.** The certificate does not constitute a representation of the accuracy of the contractor’s judgment on the estimate of future costs or projections. However, there are cases where the Boards of Contract Appeals have found that fact and judgment were so entwined that the judgments must be disclosed.

*(Topic continued next page)*

Certificate of  
Current Cost or  
Pricing Data  
(continued)

**Reasonably Available Information.** If the contractor had information reasonably available at the time of agreement showing that the negotiated price was not based on accurate, complete, and current data, the contractor's responsibility is not limited by the negotiator's lack of knowledge of the information. The contractor is responsible if anyone in the firm knew that the data were **not** accurate, complete, and/or current.

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Data Submission

FAR Table 15-2  
FAR 15.804-6

There is a clear distinction between submitting cost or pricing data and merely making available books, records, and other documents without identification. The requirement for submission of cost or pricing data is met when all accurate cost or pricing data reasonably available to the offeror have been submitted, either actually or by specific identification, to the contracting officer or an authorized representative (e.g., the cognizant auditor). As later information comes into the offeror's possession, it should be promptly submitted to the contracting officer.

The offeror must include an index (appropriately referenced) of all the cost or pricing data and information accompanying or identified in the proposal. Any additions and/or revisions to the original data submission must be annotated on a supplemental index.

FAR 15.804-4(c)

The requirement for submission of cost or pricing data continues up to the time of final agreement on price. Before agreement on price, the contractor must update all data as of the latest dates for which information is reasonably available. Certain data may not be reasonably available before normal periodic closing dates (e.g., actual indirect costs). However, be careful of cutoff dates for an entire proposal, all cost elements, or all burden centers. Request assistance from technical personnel and the cognizant auditor in defining the criteria for establishing closing or cutoff dates.

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Data Submitted  
After the Close of  
Negotiations

If any contractor personnel knew that cost or pricing data were not accurate, complete, and current, the contractor is responsible. This means that Defective Pricing could result from inadequate distribution of the information available prior to price agreement.

To assure compliance with TINA requirements, many contractors have instituted programs for conducting extensive reviews of available cost or pricing data prior to submitting the Certificate of Current Cost or Pricing Data. These reviews are commonly known as sweeps.

In some cases, these sweeps have taken several months. Be careful if a contractor requires more than 30 days. The delay could be an indication of serious flaws in the contractor's estimating system.

*(Topic continued on next page)*

Data Submitted  
After the Close of  
Negotiations  
(continued)

Whenever the contractor submits additional cost or pricing data with the Certificate of Current Cost or Pricing Data after agreement on contract price but prior to contract award, require the contractor to provide an impact statement summarizing the significance of the additional data.

If the data indicate the negotiated price was increased or decreased by any significant amount because the contractor did not submit accurate, complete, and current data before price agreement, you must determine an appropriate course of action. In doing so, you should consult with your agency legal counsel.

The Truth in  
Negotiations Act  
(TINA) Handbook

**DoD Inspector General Recommendation.** In the DoD, the DoD Inspector General (DODIG) has established the following position on the treatment of cost or pricing data identified by offerors after agreement on price but before contract award:

- Do not increase the contract price as a result of data submitted after price agreement.
- Reduce the agreed-upon price if the data indicate that the negotiated contract price was increased by any significant amount because the contractor did not submit the data before price agreement.
- The fact that a price reduction is made after the original date of agreement on price does not change the date of agreement on price for the Certificate of Current Cost or Pricing Data.

**Contractor Agreement.** To implement this policy, the contractor must agree, because you do not yet have a binding contract. What if the contractor refuses to accept a price decrease or insists on a price increase? Consult your agency legal counsel.

- Some organizations renegotiate price and retain the original date of agreement on price for the Certificate of Current Cost or Pricing Data.
- Other organizations reopen negotiations and require the contractor to update all cost or pricing data and submit a Certificate of Current Cost or Pricing Data certifying that the data are accurate, complete, and current as of the close of the reopened negotiations.

**Documentation.** Whatever action you take, assure that it is clearly documented.

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Price Negotiation  
Memorandum

FAR 52.215-22  
FAR 52.215-23

*Conrac Corp.*,  
ASBCA No. 15037,  
74-1 BCA

*Norris Industries,  
Inc.*, ASBCA No.  
15442, 74-1

*Sylvania Electric  
Products, Inc.*,  
ASBCA No. 13662,  
70-2

FAR 15.804-7(a)

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Clearly document your reliance on contractor cost or pricing data in your price negotiation memorandum (PNM).

The defective pricing clauses (Price Reduction for Defective Cost and Pricing Data or Price Reduction for Defective Cost or Pricing Data—Modifications) both provide for price reductions if the contract price was “increased by a significant amount” because the contractor submitted defective cost or pricing data. The Courts and Boards have found that the burden of proving reliance and causation rests with the Government. The strongest evidence of reliance is clear documentation.

Unfortunately, neither the statute, the FAR, nor relevant case law define reliance. Reliance exists when you directly or indirectly use contractor cost or pricing data to establish a contract price or a contract price negotiation objective. Indirect reliance occurs when you use audits, cost estimates, should-cost studies, technical evaluations, or any other evaluations which in turn considered the contractor’s cost or pricing data.

- Reliance is not limited by what you “should have known.” For example, a contractor cannot argue that a careful comparison with another proposal by the company would have revealed an error.
- Contractor price reductions or concessions made in the give-and-take of negotiations, in no way negate your reliance, unless you are aware of the defective cost or pricing data.

Reliance does not exist if you knew, at the time of price agreement, that specific data provided by the contractor were not accurate, complete, and current. In fact, you are required to notify the contractor if you learn prior to price agreement that the cost or pricing data are inaccurate, incomplete, or noncurrent.

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## 5.1 IDENTIFYING POSSIBLE DEFECTIVE PRICING

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### Introduction

FAR 15.804-7(c)

If, after contract award, you learn or suspect that the data furnished by the contractor were not accurate, complete, and current, or were not adequately verified by the contractor at the time of negotiation, request an audit to evaluate the accuracy, completeness, and currency of the data. If the audit reveals that the data certified by the contractor were defective, you can then evaluate the effect on contract cost and price.

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### Recognize Potentially Defective Cost or Pricing Data

10 USC  
§2306A(d)(1)(B)

Defective cost or pricing data are cost or pricing data which as of the date of agreement on the price of the contract (or other date agreed upon by the parties), were inaccurate, incomplete, or noncurrent.

You may uncover indicators of defective cost or pricing data during day-to-day operations or during reviews of contractor operations (e.g., technical reviews for negotiating other related contracts, purchasing system reviews, or contract performance reviews). Examples of situations that may raise your concern about possible defective pricing include:

- Data presented during later negotiations with the same company provide information that is significantly different from that presented in earlier negotiations.
- Incurred costs (either generally or in a particular category) seem to be running significantly less than projected.
- Data were not verified sufficiently at the time of contract negotiations (e.g., the auditor did not have sufficient time to make a complete review prior to award or there was a long interval between completion of the field review and completion of negotiations).
- Data collected during market research for a subsequent contract are inconsistent with the certified data.
- Defective pricing is identified on related contracts.
- Operating budget plans (e.g., indirect cost budgets) contain data that are different from the data in the contract proposal.
- Labor-mix estimates do not include data on the actual labor mix on the same or similar contracts.
- Review of other proposals indicates that the value of the contractor's inventory was erroneously computed or the latest valuation was not reflected in the contractor's proposal.

*(Topic continued next page)*

Recognize  
Potentially  
Defective Cost or  
Pricing Data  
(continued)

- Estimating system reviews reveal deficiencies in procedures for identifying and submitting cost or pricing data.
  - Contractor pricing personnel or negotiators informally state that they failed to follow contractor internal pricing policy or estimating and/or purchasing manual instructions.
  - Technical review of contract performance indicates that quantity estimates were erroneous because the contractor did not use current product drawings or failed to read current product drawings correctly.
  - Purchasing reviews indicate that the contractor did not submit available evaluations of vendor quotations or failed to reveal changes in its evaluations.
  - Purchasing reviews indicate that purchase order cancellations were not disclosed to the Government.
  - Later technical evaluations indicate that the contractor did not disclose projected increases in business volume that would affect current and projected overhead and general and administrative expense rates.
  - Contract performance reviews indicate that the contractor duplicated cost estimates for the same task.
  - The make-or-buy plan submitted with the proposal is significantly different than the plan being used in contract performance.
  - New or revised production processes which will be used in contract performance were not disclosed.
  - Incomplete historical labor-hour data appear to have been used when computing historical averages for use in proposal development.
-

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Discuss Concerns  
with the  
Contractor

If, after contract award, you suspect that the data provided by the contractor were not accurate, complete, and current or were not adequately verified by the contractors at the close of negotiations, you must investigate.

To assure that you understand the situation, you may first wish to contact the contractor to discuss your concern. During your discussions:

- Describe the data that you suspect are defective.
  - Unless it would jeopardize the Government's position, describe the reasons that you suspect that the data are defective.
  - Obtain the contractor's position on whether the cost or pricing data were accurate, complete, and current at the close of negotiations.
  - Determine if the contractor's position provides a satisfactory resolution of your concerns about the data. If you are satisfied, document your findings in the contract file.
- 

Discuss Concerns  
with Auditor

If you are not satisfied, you may wish to informally contact the cognizant auditor before making any formal allegations. A situation that appears suspicious may, in fact, result from desirable accounting and estimating practice.

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Request a  
Defective Pricing  
Audit

If you still suspect that the contract price was based on defective data, request an audit to evaluate accuracy, completeness, and currency of the cost or pricing data submitted by the contractor through the close of negotiations. As part of your request, provide the following information:

- Identify the data that you suspect are defective.
- Describe, in detail, your reasons for suspecting that the data are defective.
- Provide the auditor a copy of:
  - The PNM if one was not previously provided.
  - The index of cost or pricing data provided by the contractor during negotiations.
  - Any additional data provided by the contractor as part of your discussions.

If the auditor needs any additional information or support to complete the audit, provide it in a timely manner.

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## 5.2 DEVELOPING THE GOVERNMENT POSITION ON PRICE ADJUSTMENT

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### Introduction

FAR 15.804-7  
DoD IG TINA  
Handbook

The first step in developing a Government position on price reduction for defective pricing is a post-award audit. Although the FAR requires contracting officers to request a Government audit (See Section 5.1) when they suspect defective pricing, most audits that identify defective pricing are undertaken as part of a systematic audit program. In addition, some defective pricing reviews are conducted by the GAO and Inspector Generals.

Regardless of why the audit was initiated or which organization performed the audit, the appropriate contracting officer is responsible for resolution and disposition of any alleged Defective Pricing. This process requires the application of sound judgment and compliance with applicable regulations and policies governing contract audit resolution and disposition.

DoD Directive  
7640.2

Agency directives (e.g., Department of Defense Directive (DoDD) 7640.2, Policy for Follow-up on Contract Audit Reports; and DoDD 7650.3, General Accounting Office, DoD Inspector General, Internal Audit, and Internal Review Reports) provide detailed policy and procedural guidance for the resolution and disposition of specified audit reports. However, the table below delineates typical steps in a negotiated settlement of an alleged case of defective pricing. If a negotiated settlement cannot be reached, the process can take much longer.

*(Topic continued next page)*

Introduction  
(continued)

TYPICAL SCHEDULE FOR A NEGOTIATED SETTLEMENT		
Step	Contracting Officer Action	Complete by Day
1	Receive audit and initiate tracking.	5
2	Review the audit report and develop action plan.	10
3	Assemble related facts: <ul style="list-style-type: none"> <li>• Request contractor comments and rebuttal, if any, to defective pricing allegations.</li> <li>• Review the PNM and other documents related to cost or pricing data submission and contract negotiation.</li> <li>• Consult with Government personnel involved in the negotiation process.</li> </ul>	75
4	Review the contractor's response: <ul style="list-style-type: none"> <li>• Request audit comments on the contractor's rebuttal and any additional information uncovered during your review.</li> <li>• Request legal comments on the audit and the contractor's rebuttal. Include copies of all relevant documents in your request.</li> <li>• If new information is uncovered during your review, request additional contractor comments and rebuttal, if any.</li> </ul>	135
5	Develop, Document, and Obtain Approval of Prenegotiation Objective (Agency Decision)	180
6	Conduct settlement discussions with the contractor.	240
7	Complete the adjustment: (Completion of Action) <ul style="list-style-type: none"> <li>• Prepare the following documents: <ul style="list-style-type: none"> <li>– Price negotiation memorandum.</li> <li>– Contract modification - if the contractor owes the Government money. (Make modification bilateral if agreement was reached, unilateral if agreement was not reached.)</li> <li>– Final decision if agreement was not reached.</li> <li>– Demand for payment.</li> </ul> </li> <li>• Obtain necessary clearance reviews.</li> <li>• Distribute the appropriate documents to the parties involved.</li> </ul>	

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Receive Audit and  
Initiate Tracking

DoD Directive  
7640.2

Most acquisition activities maintain a central tracking and reporting office where audits are received and tracked through final disposition. However, you may receive the audit report directly. If you do, ensure that it is properly entered into your activity's audit follow-up tracking system as soon as possible upon receipt.

This is particularly important because the time period between the audit and agency decision (also referred to as audit resolution) and the time period between the audit and completion of the action (also known as audit disposition) are carefully monitored.

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Review the Audit  
Report and  
Develop Action  
Plan

Review the audit report. Ensure that the audit report:

- Correctly references dates and that the auditor did not arbitrarily establish a cutoff date that was not previously agreed to by the contracting officer and the contractor during the preaward negotiations. The “as of” date is crucial, not date of certificate execution.
- Reflects the use of the contractor's latest certified cost or pricing data as reconciled with the PNM, and that the auditor considered all cost or pricing data and updated proposals.
- Clearly demonstrates a causal relationship between the defect and the increase in contract price.
- Specifically references the exact cost category of the contractor's proposal deemed defective.
- Considers prime contract special provisions that control the method of pricing contract modifications.
- Findings are not affected by:
  - Incomplete or undefined contractor nomenclature.
  - Information outside the scope of certified cost or pricing data (e.g., judgments that had been made by contractor personnel).
  - An unclear audit scope.
  - Unsubstantiated statements or conclusions that are not specifically supported by the audit findings.

Immediately consult your local Legal Counsel for assistance and direction if a defective pricing case appears to involve fraud (see Chapter 4). Hold all actions involving suspected fraud in abeyance pending receipt of legal advice and any required coordination with the Department of Justice.

*(Topic continued next page)*

Review the Audit  
Report and  
Develop Action  
Plan  
(continued)

After reviewing the audit findings, establish a milestone schedule for accomplishing resolution and disposition of the audit. The table above provides examples of key milestones and the days required to complete each element. Maintaining such a schedule helps to remind Government personnel of an overdue action item, provides management with up-to-date status information at a glance, and is quite useful when a case is transferred to another contracting officer for action. Of course the schedule can be adjusted as needed to accommodate local review/clearance procedures, extension requests by the contractor, and other considerations.

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Assemble Related  
Facts

The auditor considered the information available to him/her in preparing the audit report. However, there may be other relevant facts and information that will affect your analysis of the alleged defective pricing. There are three sources of information that you should consider:

- The contractor.
- File documents related to negotiation of the contract action.
- Government personnel involved in analysis and negotiation of the contract action.

**Contractor Comments.** DCAA and most other Government audit organizations discuss factual matters with contractors throughout the post-award audit process. They also normally provide contractors a draft copy of report exhibits and explanatory notes, copies of disputed documents, and other significant audit evidence prior to final audit release. If the contractor refuses to provide comments prior to audit release, the auditor may even ask for contracting officer assistance in obtaining a response. Generally, the contractor's responses to audit findings and the auditor's comments on those responses are included in the final audit report.

Send a copy of the final audit report to the contractor for comment and rebuttal. Limit the data released to that used as a basis for the prime contract price reduction.

- If there is some reason that you are unable to release the entire audit report, provide the contractor with a detailed summary of key elements.
- If the defective pricing allegations relate to subcontractor costs, make the information necessary to support a reduction in prime contract price available to the prime contractor.

*(Topic continued on the next page)*

Assemble Related  
Facts  
(continued)

- If release of the information would compromise Government security or disclose trade secrets or confidential business information, release the data only under conditions that will preclude improper disclosure.
- If the contractor requests a copy of the price negotiation memorandum (PNM), most agencies authorize release of pertinent portions. However, you should consult your agency legal counsel to determine your authority for release and any conditions required for release.

Establish a reasonable date for contractor response (normally 30 days). The period for response may be extended if necessary, but you should always emphasize to the contractor that a timely and complete response is essential to timely disposition of the defective pricing allegations.

**Government Documents.** Review the PNM and other documents related to cost or pricing data submission and contract negotiation. Weigh the audit findings against any other information identified. In particular, you should consider the documentation in the PNM. As you learned in Section 5.1, the PNM should provide essential information concerning the cost or pricing data submitted by the contractor and the reliance placed on that data in developing contract price.

The contract file may contain other information indicating that the data were not defective, such as:

- Additional proposal updates provided by the contractor during the course of negotiations (e.g., later purchase orders, more current labor and overhead rates, or production techniques proposed by the contractor during negotiations).
- Evidence indicating that the defective data did not have a significant effect because the contracting officer did not rely on it.

However, you may also find documents that clearly support the position that the data were defective and significantly affected the negotiated price.

**Government Personnel.** Consult with Government personnel involved in the negotiation process. Even if you are the contracting officer who negotiated the pricing action and now you are assigned to resolve a defective pricing allegation, you should collect as much factual information and documentation as possible from other members of the negotiation team. Engineers, price analysts, production specialists, or auditors may possess information in their files on the preaward negotiation process that is not included in the contract file.

*(Topic continued next page)*

Assemble Related  
Facts  
(continued)

Consider the information that you obtain from these individuals along with the contractor's rebuttal and contract file documentation. Preserve all relevant documentation that you identify. It may be essential in later negotiation or litigation.

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Review the  
Contractor's  
Response

If the contractor agrees with the audit findings, your task is easy. Occasionally, a contractor even submits a check along with the response. However, more often, the contractor will submit a rebuttal to the audit findings. Review the contractor's response in detail.

FAR 15.804-7(b)(3)

Remember that the Government's right to a price adjustment is not affected by any of the following circumstances:

- The contractor or subcontractor was a sole-source supplier or otherwise was in a superior bargaining position.
- The contracting officer should have known that the cost or pricing data at issue were defective even though the contractor or subcontractor took no affirmative action to bring the character of the data to the attention of the contracting officer.
- The contract was based on an agreement about the total cost of the contract and there was no agreement about the cost of each item procured under the contract.
- The prime contractor or subcontractor did not submit a Certificate of Current Cost or Pricing Data relating to the contract.

**Audit Comments.** Request audit comments on the contractor's rebuttal and any additional information uncovered during your review. If offsets are proposed by the contractor (and certified in accordance with 10 U.S.C. Section 2306a)), request a review of each offset by the cognizant auditor.

**Legal Comments.** Request legal comments on the audit and the contractor's rebuttal. Legal review is always important. However, legal review is particularly important when the contractor cites law, Court cases, or Board cases to rebut allegations of defective pricing.

**Additional Contractor Rebuttal.** If new information is uncovered during your review of the contractor's initial rebuttal, request additional contractor comments and rebuttal, if any. It may be necessary to go back and forth several times. This continuing dialog permits you to determine the real facts of the case. If all parties can agree on the facts, it should be much easier to complete the action. Even if the parties can clarify the areas of disagreement, the process becomes easier.

---

Develop,  
Document, and  
Obtain Approval  
of Price Reduction  
Objective

FAR 15.804-7(b)(2)

You are responsible for determining what amounts, if any, are due the Government as the result of any alleged defective pricing. If your position differs from the final position of the cognizant auditor, assure that you comply with your agency and local procedures for documentation and review procedures to achieve resolution.

In developing your objective, consider:

- The time by which the cost or pricing data became reasonably available to the contractor; and
- The extent to which the Government relied upon the defective data.

DCAM 14-116.2

**Audit Baseline.** When contractors execute a Certificate of Current Cost or Pricing Data, they do not specifically identify the amounts or elements of cost being certified. Therefore, to evaluate certified cost or pricing data for compliance with TINA, the auditor must establish an audit baseline as a starting point in order to determine if the certified data were accurate, complete, and current. The audit baseline is:

- The last SF 1411 proposal before negotiations began.
- Adjusted for any additional cost or pricing data submitted by the contractor up to the time of price agreement and any sweeps data (data submitted after price agreement but before contract award).

However, some Board of Contract Appeals and Court decisions have rejected that baseline in situations where the negotiated costs are less than the contractor's proposed costs and no additional cost or pricing data were submitted or certified. Based on the particular facts of the case, decisions have allowed the following as baselines:

ASBCA No. 29525

ASBCA No. 12786

- The Government's pre-negotiation objectives.
- The costs that were considered negotiated by the contracting officer in the PNM.

You should also know that the Boards and Courts have not followed case law consistently.

**Dollar-for-Dollar Reduction.** Courts and Boards have accepted a dollar-for-dollar approach to making price reductions for defective pricing. This approach assumes that **natural and probable consequence** of defective pricing is an increase equal to the amount of the defect plus applicable overhead and profit/fee. Therefore, unless there is a clear indication that the defective data were not used or were not relied upon, the contract price should be reduced by that amount.

*(Topic continued next page)*



Develop,  
Document, and  
Obtain Approval  
of Price Reduction  
Objective  
(continued)

DFARS 215.804-  
7(b)(2)

However, the contractor may offer a rebuttal to this doctrine and present information which may demonstrate that the result was not an increase in the contract price. In this circumstance, it is your responsibility to prove that the defective data did in fact result in an increase in the contract price, and the amount of such increase.

In establishing that the defective data caused an increase in the contract price, you are not expected to reconstruct the negotiation by speculating as to what would have been the mental attitudes of the negotiating parties if the correct data had been submitted at the time of price agreement. However, you should consider all facts (including the contractor's estimating system, the proposal, the PNM, and other related documentation) and determine a fair and reasonable price adjustment.

FAR 15.804-7(f)(1)

**Reduction for Unused Subcontract Quotes.** Special treatment is required for situations where a prime contractor uses defective subcontract data in arriving at the price but does not award a subcontract to the proposed subcontractor.

If the prime contractor awards the subcontract to a lower priced subcontractor, any adjustment in the prime contract price due to defective subcontract data is limited to the difference (plus applicable indirect cost and profit/fee) between the subcontract quote used for pricing the prime contract and the actual subcontract price (provided the data on which the actual subcontract price is based is not defective).

If the prime contractor performs the work in-house, any adjustment in the prime contract price due to defective subcontract data is limited to the difference (plus applicable indirect cost and profit/fee) between the subcontract quote used for pricing the prime contract and actual cost to the prime contractor.

FAR 15.805-7(b)(4)

**Offsets.** Allow the contractor to offset, on contracts awarded on or after February 15, 1987, any understated cost or pricing data submitted in support of price negotiations, up to the amount of the Government's claim for overstated pricing data arising out of the same pricing action (e.g., the initial pricing of the same contract or the pricing of the same change order). Consider offsets for contracts awarded before February 15, 1987.

*(Topic continued next page)*

Develop,  
Document, and  
Obtain Approval  
of Price Reduction  
Objective  
(continued)

FAR 15.805-7(b)(5)

Allow an offset only in an amount supported by the facts and if the contractor:

- Certifies that, to the best of the contractor's knowledge and belief, the contractor is entitled to the offset in the amount requested; and
- Proves that the cost or pricing data were available before the date of agreement on price, but were not submitted.

Such offsets need not be in the same cost groupings (e.g., material, direct labor, or indirect cost) as the alleged defective pricing.

Do not allow an offset if the:

- Understated data were known by the contractor to be understated when the Certificate of Current Cost or Pricing Data was signed; or
- The Government proves that the facts demonstrate that the price would not have increased in the amount proposed for offset even if the available data had been submitted before the date of price agreement. Assure that the cognizant auditor was requested to review any proposed offset.

FAR 15.804-7(b)(7)

**Interest.** In addition to the price adjustment, the Government is also entitled to interest on any overpayments on contracts or modifications awarded after November 7, 1985. (For contracts awarded on or before November 8, 1985, interest may be assessed only after you issue a demand for payment.) Overpayment occurs only when payment is made for supplies or services accepted by the Government. Overpayments would not result from amounts paid under contract financing (e.g., advance or progress payments).

In calculating the interest due:

- Determine the defective pricing amounts that have been overpaid by the Government.
- Consider the date of each overpayment. The date of overpayment for this interest shall be the date payment was made for the related completed and accepted contract items.
- Apply the underpayment interest rate(s) in effect for each quarter from the time of overpayment to the time of repayment, utilizing rate(s) prescribed by the Secretary of the Treasury under 26 USC 6621(a)(2).
- Remember that interest continues to accrue until repayment is made.

*(Topic continued next page)*

Develop,  
Document, and  
Obtain Approval  
of Prenegotiation  
Objective  
(continued)

FAR 15.804-7(b)(7)(iii)
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**Penalties for DoD Contracts.** Obtain a penalty amount on DoD contracts equal to the amount of the overpayment if the contractor knowingly submitted defective data on a contract or modification awarded after November 7, 1985. Before taking any contractual actions concerning penalties, obtain the advice of legal counsel.

**Objective Review and Approval.** Before entering into discussions with the contractor, obtain all reviews and approvals required by FAR, agency, or local guidance.

Even if it is not required, consider obtaining legal review before entering into discussions with the contractor on a defective pricing case.

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## 5.3 COMPLETE SETTLEMENT ACTION

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### Introduction

After all the necessary reviews and approvals have been completed, you will be in a position to complete settlement action including:

- Discussions with the contractor; and
  - Documentation
- 

### Conduct Settlement Discussions with the Contractor

Conduct settlement discussions with the contractor to reach a bilateral agreement. If you believe it would benefit discussions, invite the cognizant auditor to participate in discussions.

In attempting to reach a settlement, do not:

- Make an agreement that precludes further defective pricing audit reviews on the same or other contracts.
  - Make an agreement that is contingent upon settling defective pricing found on one or more other contracts.
  - Accept contractual goods or services on the same or other contracts as compensation for, or disposition of, a defective pricing case.
  - Credit the amount of defective pricing in negotiating a concurrent or subsequent contract, including a follow-on contract.
  - Adjust only one contract for defective pricing when the same defective pricing was cited on multiple contracts with the same contractor.
  - Settle, compromise, pay, or otherwise adjust any claim involving fraud, or any claim or dispute for penalties or forfeitures prescribed by statute or regulation that another Federal agency is specifically authorized to administer, settle, or determine.
- 

FAR 33.210
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Documentation

Documentation is required, no matter how successful you are in reaching a negotiated settlement. As a minimum it should include, a price negotiation memorandum, a contract modification, and a demand for payment.

FAR 15.804-7(d)

**Defective Pricing Memorandum.** Prepare a memorandum indicating:

- Your determination as to whether or not the submitted data were accurate, complete, and current as of the certified date and whether or not the Government relied on the data.
- The results of any contractual action taken.

FAR 15.804-  
7(b)(7)(iv)

**Price Reduction Modification or Demand Letter.** Include the following in a price reduction modification or demand for payment:

- The repayment amount.
- The penalty amount (if any).
- The interest amount through a specified date.
- A statement that interest will continue to accrue until the date repayment is made.

*(Topic continued next page)*

Documentation  
(continued)

FAR 33.211
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**Final Decision.** If you and the contractor cannot reach a settlement agreement, issue a contracting officer's final decision. The final decision must :

- Describe the claim for defective pricing.
- Reference the pertinent contract clause.
- State the factual areas of agreement and disagreement.
- State your decision with supporting rationale.
- Include the paragraph at FAR 33.211(a)(4)(v) delineating the contractor's right to appeal.
- Demand payment whenever the decision results in a finding that the contractor is indebted to the Government.

**Obtain Clearance Reviews and Approvals.** Before distributing documents related to the settlement, obtain any approvals required by agency or local guidance.

**Distribute Documents.** Furnish a copy of the decision to the contractor and require the contractor to provide evidence of receipt. Distribute related documents to the appropriate Government organizations, including a copy of the Defective Pricing Memorandum to the cognizant auditor and a copy to the cognizant contract administration office. If you do not find Defective Pricing, notify the contractor of your decision by providing the contractor a copy of the Defective Pricing Memorandum, or by some other means.

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## QUESTIONS AND PROBLEMS

1. What action must you take before you can require an offeror to submit Certified Cost or Pricing Data to support an offer priced at \$95,000?
2. An offeror sends you a stack of computerized cost data three feet high. Is this adequate submission of cost or pricing data?
3. An offeror submits cost or pricing data after the close of negotiations, but before the certificate is signed. Is this defective pricing?
4. If you suspect defective pricing, should you discuss your suspicion with the contractor or maintain silence until your suspicion is confirmed or refuted?
5. When Government auditors allege defective pricing, what baseline do they normally use for adjustment?
6. Can the Government pursue defective pricing as a result of a prospective subcontractor's proposal, if the subcontract was awarded to another firm.
7. If a contract is under priced because the cost or pricing data were not accurate, complete or current, is the contractor due an increase in contract price?

8. When can the Government collect interest as result of defective pricing?
9. When can the Government assess financial penalties for defective pricing?
10. What major elements must be included in any bilateral agreement to resolve alleged defective pricing?



## WILLIAMS CORPORATION

Your contracting activity negotiated a \$7,500,000 single-source contract with the Williams Corporation about eight months ago. After the close of negotiations, Williams signed a Certificate of Current Cost or Pricing Data. During an audit for a follow-on contract, a Government technical expert identified an element that she suspects may be defective pricing. She has requested your assistance in determining the appropriate course of action.

Williams' proposal for a 100 units of a \$920 item was supported by three quotes as follows:

Holder Enterprises	100 @ \$1,230	\$123,000 total
Minor Inc.	100 @ \$1,125	\$112,500 total
Major Corporation	100 @ \$920	\$92,000 total

After contract award, Williams sent an RFQ to two firms and received the following quotes:

Woodson Inc.	100 @ \$105	\$10,500 total
Greene Manufacturing	100 @ \$950	\$95,000 total

The proposal never mentioned either Woodson Inc. or Greene Manufacturing.

1. Is this defective pricing? Explain.
  
  
  
  
  
  
  
2. What action should you take?
  
  
  
  
  
  
  
3. How much money is due the Government as a result of this situation?

## **BLIER SYSTEMS**

You are negotiating with Blier Systems for award of a single-source production contract for a state-of-the-art system. The estimated contract price is \$800,000. Five days ago, you met Blier's Purchasing Manager in the hall. She told you that she had just learned that one of two known sources for a key component will no longer produce the component. The second source makes a quality product but their price is almost \$25,000 more.

Since that chance meeting, you have been concerned that Blier will increase its price or break off negotiations while they look for another source. To your surprise, Blier's negotiator has never mentioned the problem.

You are a bit relieved because you cannot afford an increase in contract cost or the possible long delay while Blier searches for a new subcontractor.

1. Are you obligated to tell Blier's negotiator what you know?
  
  
  
  
  
  
  
  
  
  
2. Are you obligated to accept a price increase that you fully expect from Blier?

## SOOPER SYSTEMS

Woodson Systems is a large manufacturer with millions of dollars in sales to the Government each year. Sooper Systems, a small business, is one of Woodson's subcontractors.

Over the years, Woodson and Sooper had a good working relationship. Sooper cooperated fully with Woodson, even allowing Woodson employees complete access to its production facility.

In recent years, the relationship has become strained. About three years ago, Woodson audited Sooper's cost or pricing data and identified some unallowable costs in the proposal. After this incident, Sooper became reluctant to provide support. The relationship became more strained when Sooper management learned of Woodson's increased efforts to identify a second source for Sooper components. As a result of this increasingly strained relationship, Sooper told Woodson that it would no longer provide cost or pricing data to Woodson to support proposed costs. However, Sooper did agree to provide required cost or pricing data to the Government.

As a result of Sooper's refusal to provide cost or pricing data, Woodson has requested Government assistance in evaluating Sooper proposals. You received the most recent request in February 19X9, for evaluation of a \$510,000 firm fixed-price Sooper proposal. To assist Woodson, you requested technical analysis but no audit analysis.

At this time, Sooper authorized the release of the Government findings to Woodson as long as Sooper received concurrent release of the report. Sooper gave no indication that any of the data released to the Government would be considered proprietary.

The Government engineer completed the technical evaluation and a copy was provided to Sooper. Upon receipt of the report, Sooper immediately contacted you stating that the report should not be issued to Woodson until Sooper management has a chance to talk to the Government engineer who performed the analysis. Obviously, they hoped to convince the engineer to amend the report.

The problem centered on an exception taken by the engineer to the way Sooper estimated labor hours. The engineer recommended that the proposed labor hours be reduced by one-third. This adjustment plus related indirect costs would have a significant impact on contract price.

1. Can a subcontractor legally refuse to provide cost or pricing data to a prime contractor?
2. Is it proper for the Government to perform a technical analysis to support subcontract negotiations?

3. Would it be proper for the Government to perform an audit analysis to support subcontract negotiations?
4. What alternative courses of action are open to you?
5. What alternative should you select?
6. What should you do if Woodson asks for support from the Government engineer during subcontract negotiations?
7. Does Government support in analysis limit the Government's rights if the subcontractor's data are not accurate, current, and complete?

## **BRADSHAW CORPORATION**

As a Government contracting officer, you completed negotiations on March 15, 19X4 with Bradshaw Corporation for a \$530,000 firm fixed-price contract for 100 units of a major system component. Because Bradshaw was the only firm considered for award, you required certified cost or pricing data. The certificate was signed on April 1, 19X4 and contract award was made on April 8, 19X4.

Progress payments began on May 31, 19X4. Half of the components (\$265,000) were delivered and accepted on June 1, 19X5 and the invoice paid on July 1, 19X5.

In July 19X5, a post-award audit revealed that Bradshaw had made a breakthrough in production technology that reduced their production scrap rate from 50 percent to 5 percent. Intrigued by the breakthrough, the auditor conducted an in-depth review of the history behind it. During the review, the auditor found a memorandum, dated February 21, 19X4 from the Production Manager stating that “Production Engineers may have finally licked the scrap problem. It may be down to 5 or 10 percent in six months.” This finding was never disclosed to the Government.

On August 23, 19X5, Bradshaw’s President agreed with your position that the contract price had been inflated by \$1,000 per unit because of the defective cost or pricing data. Unfortunately, you were transferred temporarily to a special project and did not complete the contract modification until May 15, 19X6.

1. What should be the adjusted contract price?

2. The Government is due interest:

Starting on what date?

On what amount?

At what rate?

Ending on what date?

3. How much of a penalty should the contractor be required to pay the Government?

## ZERO DEFECTS INCORPORATED

On September 30, 19X4, you completed negotiation of a single-source firm fixed-price (FFP) contract with Zero Defects Incorporated (ZDI). The offeror's proposed cost per unit and the negotiated cost per unit as follows:

	<b>Proposed</b>		<b>Negotiated</b>	
Materials	\$50,000		\$45,000	
Material Overhead	5,000	(10.0%)	4,050	(9.0%)
Engineering Labor	10,000		10,000	
Engineering Overhead	20,000	(200.0%)	19,500	(195.0%)
Manufacturing Labor	100,000		95,000	
Manufacturing Overhead	<u>100,000</u>	(100.0%)	<u>99,750</u>	(105.0%)
Total Cost Input	\$285,000		\$273,300	
G&A Expense	<u>28,500</u>	(10.0%)	<u>25,964</u>	(9.5%)
Total Cost	\$313,500		\$299,264	
Profit	<u>47,025</u>	(15.0%)	<u>35,912</u>	(12.0%)
Total Price	\$360,525		\$335,176	

Contract Price = \$335,176 x 50 units = \$16,808,800

Negotiations Concluded:	September 30, 19X4
Certificate of Current Cost or Pricing Data Executed:	October 12, 19X4
Award Made:	November 1, 19X4

**Audit Findings.** Sixty days after contract award, the Government auditor notified you that a portion of the materials were defectively priced. Specifically, ZDI proposed \$2,000 per unit for a key electronic component and provided competitive vendor quotes supporting that price. However, records clearly indicate that ZDI had received a vendor quote of \$1,800 per unit prior to the close of negotiations, and that the quote was later accepted.

**Price Negotiation Memorandum.** Your review of the Price Negotiation Memorandum (PNM) revealed that the Government-developed negotiation objective of \$1,900 per unit for this item was based on a detailed analysis of the ZDI proposal. You notified ZDI of the Government's preliminary finding of defective pricing and indicated you intend to pursue an appropriate contract price adjustment.

**ZDI Position.** ZDI takes exception to your proposed action. ZDI reminds you that negotiations of the FFP contract were conducted at the "bottom line", and the negotiations did not address individual cost elements. The unit price negotiated is \$25,349 lower than the price proposed—a total contract price reduction of \$1,267,450. ZDI further states that its use of the lower quote is simply an example of the smart management required to contain contract costs and meet the lower overall prices negotiated with "slick" Government negotiators. Since the Government did not rely on the cost data during negotiations, defective pricing cannot exist.

1. Is the ZDI position correct? Why or why not?
2. If the Government position is correct, what should be the amount of the reduction as a result of the defective pricing?
3. If the Government negotiation objective for this item had been based on a decrement factor of 5 percent developed using stratified sampling, would there be defective pricing?
4. If the Government negotiation objective had been based on an historical cost of \$1,800 plus an index factor of 5 percent (total objective \$1,890), would there be defective pricing?





## **CHAPTER 6**

### **Establishing and Monitoring Contract Type**

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## Learning Objectives

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At the end of this  
Chapter

At the end of this chapter, you will be able to:

### **Classroom Learning Objective 6/1**

Select the contract type that best matches risks inherent in the work.

### **Classroom Learning Objective 6/2**

Accurately describe the bases for adjustment and considerations for development of a fixed-price contract with economic price adjustment. Correctly calculate final contract price in a given acquisition, using economic price adjustment provisions established in the contract.

### **Classroom Learning Objective 6/3**

Accurately describe the types of incentive contracts and general considerations in establishing incentive arrangements.

### **Classroom Learning Objective 6/4**

Accurately describe the different types of award fee contracts and general considerations in establishing the base fee and award fee plan. Correctly identify the relationship between contract terms and the elements of the award fee plan.

### **Classroom Learning Objective 6/5**

Correctly identify contract provisions affecting price redetermination decisions.

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## CHAPTER OVERVIEW

In This Chapter

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6.2.1 Establishing Terms and Conditions for Economic Price Adjustment	6-15
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References

FAR	14.407-4	DFARS	215.974
	15.902(a)		216.203
	Part 16		216.404-2
			216.470
			Table 16-1
			Table 16-2

## CHAPTER OVERVIEW

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### **Introduction**

The contract compensation arrangement is the method of determining the dollars due to the contractor under the contract. In this Chapter, you will learn about the development and application of common compensation arrangements. When used in this Chapter, the terms “contract type” and “type of contract” refer to the contract compensation arrangement.

Depending on the situation, the choice of the type of contract can be a simple task, or it can require considerable thought. If you are using sealed bidding, you can choose between using an FFP contract and using a fixed-price economic price adjustment (FPEPA). If you are using FAR Part 15 procedures, you can choose from a wide range of contract types.

You must analyze the amount and type of risk involved in contract performance and select a compensation arrangement that is appropriate for the type and level of risk involved.

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## 6.1 MATCHING CONTRACT TYPE TO CONTRACT RISK

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### Introduction

FAR 16.103

Your principal method of allocating cost risk between the Government and the contractor, is to select the proper contract type for the contract requirement. There is no single contract type that is right for every contracting situation. Selection must be made on a case-by-case basis considering contract risk, incentives for contractor performance, and other factors such as the adequacy of the contractor's accounting system. Your objective should be to select a contract type that will result in reasonable contractor risk with the greatest incentive for efficient and economical contract performance. Selecting the proper contract type will make the work more attractive to more potential offerors, thereby increasing competition.

You shall place documentation in the contract file showing why the particular contract type was selected, unless you are:

- Using small purchase procedures (FAR Part 13).
  - Using a firm fixed-price contract . However, you must document the selection of a firm fixed-price contract when contracting for a major weapon system or research and development.
  - Awarding the set-aside portion of a sealed bid partial set-aside for small business or labor surplus area concerns.
- 

### Fixed-Price and Cost Reimbursement Contracts

FAR Subpart 16.2

The table on the following pages compares the most common compensation arrangements. Most of those arrangements fit into two general categories fixed-price and cost reimbursement, but labor-hour and time-and-materials contracts have characteristics of both:

**Fixed-Price.** Under a fixed-price contract, the contractor agrees to deliver the product or service required at a price not in excess of the agreed-to maximum. Fixed-price contracts should be used when the contract risk is relatively low, or defined within acceptable limits, and the contractor and the Government can reasonably agree on a maximum price.

Contract types in this category include:

- Firm fixed-price (FFP)
- Fixed-price economic price adjustment (FPEPA)
- Fixed-price award fee (FPAF)
- Fixed-price incentive firm (FPIF)
- Fixed-price incentive with successive targets (FPIS)
- Fixed-price contract with prospective price redetermination (FPRP)
- Fixed-ceiling-price contracts with retroactive price redetermination (FPRR)
- Firm fixed-price level of effort (FFPLOE)

*(Topic continued on next page)*

Fixed-Price and  
Cost  
Reimbursement  
Contracts  
(continued)

FAR Subpart 16.3

**Cost-Reimbursement.** Under a cost-reimbursement contract, the contractor agrees to provide its best effort to complete the required contract effort. Cost-reimbursement contracts provide for payment of allowable incurred costs, to the extent prescribed in the contract. These contracts include an estimate of total cost for the purpose of obligating funds and establishing a ceiling that the contractor cannot exceed (except at its own risk) without the approval of the contracting officer.

Contract types in this category include:

- Cost (CR)
- Cost-sharing (CS)
- Cost-plus-fixed-fee (CPFF)
- Cost-plus-award-fee (CPAF)
- Cost-plus-incentive-fee (CPIF)

FAR Subpart 16.6

**Labor-Hour and Time-and-Materials.** There are two other types of compensation arrangements that do not completely fit the mold of either fixed-price or cost reimbursement contracts. Labor-hour and time-and-materials contracts both include fixed labor rates but only estimates of the hours required to complete the contract. Because these contracts (1) do not require the contractor to complete the required contract effort within an agreed-to maximum price and (2) reimburse the contract for actual hours worked, they are generally considered to most resemble cost-reimbursement contracts.

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	<b>FIRM FIXED-PRICE (FFP)</b>	<b>FIXED-PRICE ECONOMIC PRICE ADJUSTMENT (FPEPA)</b>	<b>FIXED-PRICE INCENTIVE FIRM (FPIF)</b>	<b>FIXED-PRICE AWARD FEE (FPAF)</b>	<b>FIXED-PRICE PROSPECTIVE REDETERMINATION (FPRP)</b>
<b>PRINCIPAL RISK TO BE MITIGATED</b>	None. Thus, the contractor assumes all cost risk.	Unstable market prices for labor or material over the life of the contract.	Moderately uncertain contract labor or material requirements.	Risk that the user will not be fully satisfied because of judgmental acceptance criteria.	Costs of performance after the first year because they cannot be estimated with confidence.
<b>USE WHEN..</b>	<ul style="list-style-type: none"> <li>The requirement is well-defined.</li> <li>Contractors are experienced in meeting it.</li> <li>Market conditions are stable.</li> <li>Financial risks are otherwise insignificant.</li> </ul>	The market prices at risk are severable and significant. The risk stems from industry-wide contingencies beyond the contractor's control. The dollars at risk outweigh the administrative burdens of an FPEPA.	A ceiling price can be established that covers the most probable risks inherent in the nature of the work. The proposed profit sharing formula would motivate the contractor to control costs to and meet other objectives.	Judgmental standards can be fairly applied by an Award Fee panel. The potential fee is large enough to both: <ul style="list-style-type: none"> <li>Provide a meaningful incentive.</li> <li>Justify administrative burdens of an FPAF.</li> </ul>	The Government needs a firm commitment from the contractor to deliver the supplies or services during subsequent years. The dollars at risk outweigh the administrative burdens of an FPRP.
<b>ELEMENTS</b>	A firm fixed-price for each line item or one or more groupings of line items.	A fixed-price, ceiling on upward adjustment, and a formula for adjusting the price up or down based on: <ul style="list-style-type: none"> <li>established prices.</li> <li>actual costs of the labor materials.</li> <li>labor or material indices.</li> </ul>	<ul style="list-style-type: none"> <li>A ceiling price</li> <li>Target cost</li> <li>Target Profit</li> <li>Delivery, quality, and/or other performance targets (optional)</li> <li>Profit sharing formula</li> </ul>	<ul style="list-style-type: none"> <li>A firm fixed-price.</li> <li>Standards for evaluating performance.</li> <li>Procedures for calculating a "fee" based on performance against the standards<sup>1</sup></li> </ul>	<ul style="list-style-type: none"> <li>Fixed price for the first period.</li> <li>Proposed subsequent periods (at least 12 months apart).</li> <li>Timetable for pricing the next period(s).</li> </ul>
<b>CONTRACTOR IS OBLIGED TO:</b>	Provide an acceptable deliverable at the time, place and price specified in the contract.	Provide an acceptable deliverable at the time and place specified in the contract at the adjusted price.	Provide an acceptable deliverable at the time and place specified in the contract at or below the ceiling price.	Perform at the time, place, and the price fixed in the contract.	Provide acceptable deliverables at the time and place specified in the contract at the price established for each period.
<b>CONTRACTOR INCENTIVE (OTHER THAN MAXIMIZING GOODWILL)<sup>2</sup></b>	Generally realizes an additional dollar of profit for every dollar that costs are reduced.	Generally realizes an additional dollar of profit for every dollar that costs are reduced.	Realizes a higher profit by completing the work below the ceiling price and/or by meeting objective performance targets.	Generally realizes an additional dollar of profit for every dollar that costs are reduced; earns an additional fee for satisfying the performance standards.	For the period of performance, realizes an additional dollar of profit for every dollar that costs are reduced.
<b>TYPICAL APPLICATION</b>	Commercial supplies and services.	Long-term contracts for commercial supplies during a period of high inflation	Production of a major system based on a prototype	Installation support services.	Long-term production of spare parts for a major system.
<b>PRINCIPAL LIMITATIONS IN FAR PARTS 16, 32, 35, AND 52</b>	Generally NOT appropriate for R&D.	MUST be justified.	Must be justified. Must be negotiated. Contractor must have an adequate accounting system. Targets MUST be supported by the cost data.	MUST be negotiated.	MUST be negotiated. Contractor must have an adequate accounting system that supports the pricing periods. Prompt redeterminations.
<b>VARIANTS</b>	Firm Fixed Price Level of Effort.		Successive Targets		Retroactive Redetermination

<sup>1</sup>The amount of the award fee is not subject to the Dispute Clause.

## Section 6.1 Matching Contract Type to Contract Risk

	<b>COST-PLUS INCENTIVE-FEE (CPIF)</b>	<b>COST-PLUS AWARD-FEE (CPAF)</b>	<b>COST-PLUS FIXED-FEE (CPFF)</b>	<b>COST OR COST- SHARING (C OR CS)</b>	<b>TIME &amp; MATERIALS (T&amp;M)</b>
<b>PRINCIPAL RISK TO BE MITIGATED</b>	Highly uncertain and speculative labor hours, labor mix, and/or material requirements (and other things) necessary to perform the contract. The Government assumes the risks inherent in the contract—benefiting if the actual cost is lower than the expected cost—losing if the work cannot be completed within the expected cost of performance.				
<b>USE WHEN..</b>	An objective relationship can be established between the fee and such measures of performance as actual costs, delivery dates, performance benchmarks, and the like.	Objective incentive targets are not feasible for critical aspects of performance. Judgmental standards can be fairly applied. <sup>1</sup> Potential fee would provide a meaningful incentive.	Relating fee to performance (e.g., to actual costs) would be unworkable or of marginal utility.	<ul style="list-style-type: none"> <li>The contractor expects substantial compensating benefits for absorbing part of the costs and/or foregoing fee or</li> <li>The vendor is a non-profit entity</li> </ul>	No other type of contract is suitable (e.g., because costs are too low to justify an audit of the contractor's indirect expenses).
<b>ELEMENTS</b>	<ul style="list-style-type: none"> <li>Target cost</li> <li>Performance targets (optional)</li> <li>A minimum, maximum, and target fee</li> <li>A formula for adjusting fee based on actual costs and/or performance</li> </ul>	<ul style="list-style-type: none"> <li>Target cost</li> <li>Standards for evaluating performance</li> <li>A base and maximum fee</li> <li>Procedures for adjusting "fee", based on performance against the standards</li> </ul>	<ul style="list-style-type: none"> <li>Target cost</li> <li>Fixed fee</li> </ul>	<ul style="list-style-type: none"> <li>Target cost</li> <li>If CS, an agreement on the Government's share of the cost.</li> <li>No fee</li> </ul>	<ul style="list-style-type: none"> <li>A ceiling price</li> <li>A per-hour labor rate that also covers overhead and profit</li> <li>Provisions for reimbursing direct material costs</li> </ul>
<b>CONTRACTOR IS OBLIGED TO:</b>	Make a good faith effort to meet the Government's needs within the estimated cost in the Schedule.				Make a good faith effort to meet the Government's needs within the "ceiling price."
<b>CONTRACTOR INCENTIVE (OTHER THAN MAXIMIZING GOODWILL)<sup>2</sup></b>	Realizes a higher fee by completing the work at a lower cost and/or by meeting other objective performance targets.	Realizes a higher fee by meeting judgmental performance standards.	Realizes a higher rate of return (i.e., fee divided by total cost) as total cost decreases.	If CS, shares in the cost of providing a deliverable of mutual benefit	
<b>TYPICAL APPLICATION</b>	Research and development of the prototype for a major system.	Large scale research study.	Research study	Joint research with educational institutions.	Emergency repairs to heating plants and aircraft engines.
<b>PRINCIPAL LIMITATIONS IN FAR PARTS 16, 32, 35, AND 52</b>	The contractor must have an adequate accounting system. The Government must exercise surveillance during performance to ensure use of efficient methods and cost controls. Must be negotiated. Must be justified. Statutory and regulatory limits on the fees that may be negotiated. Must include the applicable "Limitation of Cost" clause at FAR 52.232-20 through 23.				Labor rates must be negotiated. MUST be justified. The Government MUST exercise appropriate surveillance to ensure efficient performance.
<b>VARIANTS</b>			Completion or Term.		Labor Hour (LH)

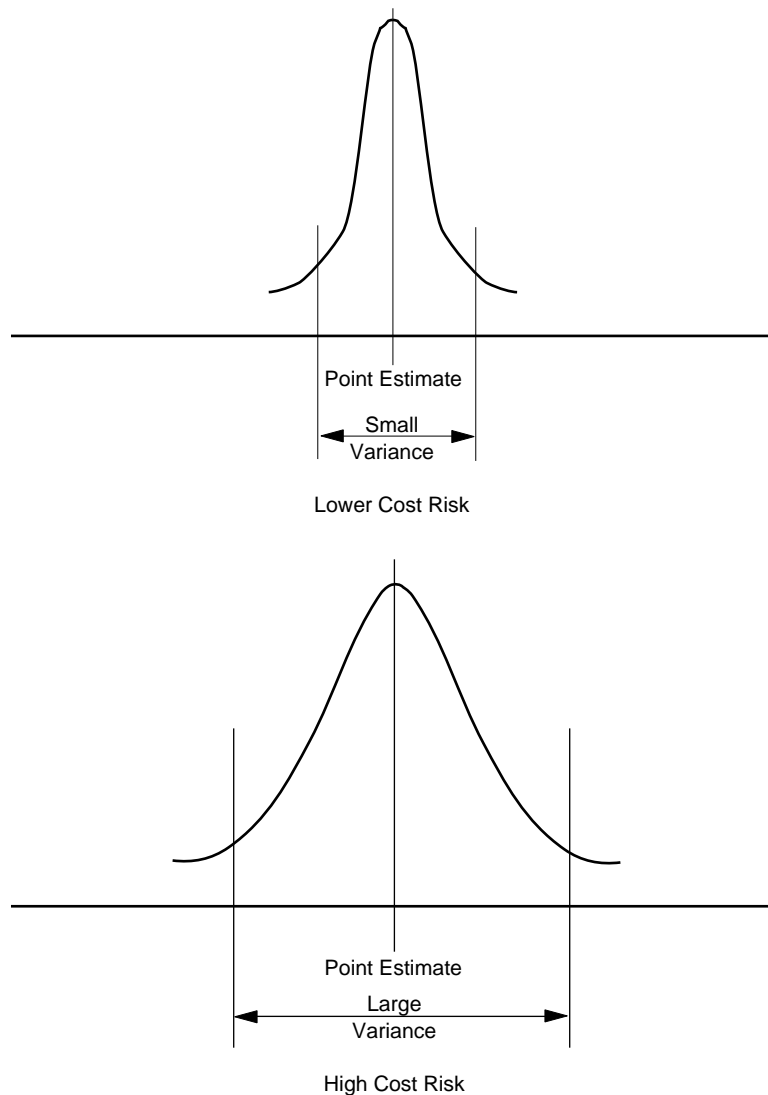
<sup>2</sup>Goodwill being the value of the name, reputation, location, and other intangible assets of a firm.



### Consideration of Cost Risk in Selection Decision

You should encourage contractors to accept reasonable cost risks of contract performance. However, requiring contractors to accept unknown or uncontrollable cost risk can endanger contract performance, substantially reduce competition, and/or substantially increase contract price. To realistically choose the proper type of contract to meet a specific procurement situation, you must consider the proper allocation of cost risk.

Cost estimates, whether they are the offeror's proposed or the Government's recommended, are point estimates. In all contracts involving forward pricing, the point estimate is a projection of what the estimator believes is most likely to happen. Since things rarely happen exactly as predicted, there are usually variances between projected and actual cost. The greater the potential variability between the projected and actual cost, the greater the cost risk.



*(Topic continued on next page)*

Consideration of  
Cost Risk in  
Selection Decision  
(continued)

As a minimum, your appraisal of cost risk should consider two areas of particular concern, contract performance risk and market risk.

**Performance Risk.** Normally, most contract cost risk is related to contract requirements and the certainty surrounding contract performance. The greater the certainty the lower the risk. Therefore, your appraisal of cost risk should begin with an appraisal of performance risk. For larger more complex contracts, you will likely need assistance in appraising performance risk. Consider inputs from key members of the acquisition team (e.g., representatives from the requiring activity, engineering staff, contracting, and program/project management). Areas that you should consider in your appraisal should include:

- The type and complexity of the item or service being purchased.
- Stability of the contract specifications or statement of work.
- Availability of historical pricing data.
- Prior experience in providing required supplies or services.
- Urgency of the requirement.
- Contractor technical capability and financial responsibility.
- Extent and nature of proposed subcontracting.

One of the primary factors that will affect risk in many of these areas is requirement definition. As the item or service requirement becomes better defined, the specifications or statement of work becomes more stable and the production methods and pricing data become better defined. The figure below relates requirement definition to contract risk and contract types commonly used in the situations identified.

COST RISK AND CONTRACT TYPE						
Cost Risk	High _____ Low					
Requirement Definition	Vague _____ Well-defined					
Production Stages	Concept Studies & Basic Research	Exploratory Development	Test/ Demonstration	Full-scale Development	Full Production	Follow-on Production
Contract Type	Varied	CPFF	CPIF, FPIF	CPIF, FPIF, FFP	FFP, FPIF, FPEPA	FFP, FPIF, FPEPA

*(Topic continued on next page)*

Consideration of  
Cost Risk in  
Selection Decision  
(continued)

In examining the effect of requirement definition on cost risk, you will generally find that the risk will be reduced from a high to a relatively low level, as the requirement progresses from vague to well-defined.

- Research and development contracts generally have a rather high performance risk associated with them. This is due to the factor of ill-defined requirements that arise from the necessity to deal beyond, or at least very near, the upper limits of current technology (i.e., "the state of the art").
- Follow-on production contracts have a relatively low risk. Requirements are well known, there is a cost history to draw on, contractors have experience producing the product, etc.

The contract types generally associated with vague requirements are cost-reimbursement, time & materials, or labor-hour contracts. As the requirement becomes better defined, a fixed-price contract should be selected.

**Market Risk.** Changes in the marketplace will also affect contract costs. Preferred acquisition practice calls for forward pricing of contract efforts, because forward pricing provides a baseline which you and the contractor can use to measure cost or price performance against contract effort.

Forward pricing requires the contracting parties to make assumptions about future changes in the marketplace. A volatile market will increase the cost risk involved in contract pricing, particularly when the contract period will extend several years. What will material and labor cost two years from now? Will material shortages occur two years from now? In cases where these unknown costs are significant, contract period risk becomes an important consideration in selection of contract type.

Fixed-price contracts with economic price adjustment, for example, are designed specifically to reduce this risk for contractors.

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Consideration of  
Performance  
Incentives in  
Selection Decision

FAR 16.103(b)

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When selecting the contract type to be used for a particular contract, you should select the contract type (or combination of types) that will appropriately tie profit to contractor performance. When the risk involved is minimal or can be predicted with an acceptable degree of certainty, a firm fixed-price contract shall be used, because it best utilizes profit to motivate efficient contract performance and cost control.

However, when a reasonable basis for firm pricing does not exist, other contract types should be considered. Use of a firm fixed-price contract may limit competition, encourage inflated contract pricing, and efforts to control costs may actually hamper effective contract performance.

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Consideration of  
Accounting  
System Adequacy  
in Selection  
Decision

FAR 16.104(h)

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Before agreeing on a contract type other than firm fixed-price, you must ensure that the contractor's accounting system will permit timely development of all necessary cost data in the form required for the proposed contract type. Accounting system adequacy may be critical if the pricing arrangement requires a revision of prices while performance is in progress (e.g., fixed-price incentive and cost reimbursement contracts). It may also be particularly critical when the contractor's only experience has been with firm fixed-price contracts.

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## 6.2 UTILIZING FIXED-PRICE ECONOMIC PRICE ADJUSTMENT CONTRACTS

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### Introduction

FAR 16.203

A fixed-price with economic price adjustment (FPEPA) contract is designed to cope with the economic uncertainties that threaten long-term fixed-price arrangements. The economic price adjustment (EPA) provisions provide for both price increases and decreases to protect the Government and the contractor from the effects of economic changes.

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### Situations for Use

FAR 16.203-2

An FPEPA contract, may be used in sealed bidding or negotiation when both of the following conditions exist:

- There is serious doubt concerning the stability of market or labor conditions that will exist during an extended period of contract performance.
- Contingencies that would otherwise be included in the contract price can be identified and covered separately in the contract.

If the required conditions exist, consider the following factors, as you decide whether an FPEPA contract is appropriate for a specific contracting situation:

- Volatility of the markets for labor and material. The more volatile the market, the greater the benefits that can be derived from FPEPA utilization.
  - Projected contract period. The longer the contract, the greater the contractor's exposure to an uncertain market. FPEPA contracts are normally not used for contracts that will be completed within six months of contract award.
  - The amount of competition expected. If markets are truly volatile, many firms may be unwilling to submit an offer without EPA protection.
  - Dollar value of the contract. The greater the cost risk to the contractor, the greater the benefits that can be derived from an FPEPA contract. In the DoD, adjustments based on actual labor or material cost are generally not used for contracts of \$50,000 or less.
- 

DFARS 216.203

DFARS 216.203

Limitations on Use

FAR 16.203-3

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You shall not use an FPEPA contract unless you have determined that it is necessary for one of the following reasons.

- To protect the contractor and the Government against significant fluctuations in labor or material costs.
  - To provide for contract price adjustment in the event of changes in the contractor's established prices.
-

### 6.2.1 Establishing Terms and Conditions for Economic Price Adjustment

#### Establishing the Base Price

FAR 16.203-2

When establishing the base level from which adjustment will be made, ensure that contingency allowances are not duplicated by inclusion in both the base price and the adjustment requested by the contractor under the EPA provision.

If you do not require cost or pricing data, obtain adequate information to establish the base level from which adjustment will be made. If necessary, you may require verification of the data submitted.

#### EPA Provisions in Negotiated Contracts

FAR 16.203-4

The key provision in an FPEPA contract is the EPA clause. FAR 16.203-4 identifies the four types of economic price adjustment presented in the table below. In developing an FPEPA contract, you can choose from the FAR EPA clauses, use an agency-prescribed clause, or develop your own unique clause following agency guidelines.

Type Price Adjustment	When you have determined that use of an FPEPA contract is appropriate,...	Contract Provision
Adjustment Based on Established Prices—Standard Supplies	<ul style="list-style-type: none"> <li>• Use when contracting by negotiation and all the following conditions are met:               <ul style="list-style-type: none"> <li>– A fixed-price contract is contemplated.</li> <li>– Contract is for standard supplies with an established catalog or market price.</li> </ul> </li> <li>• If the contract unit price reflects a net price after applying a trade discount from a catalog or list price, document both the catalog or list price and the discount.</li> </ul>	<ul style="list-style-type: none"> <li>• Economic Price Adjustment—Standard Supplies (FAR 52.216-2); or</li> <li>• An agency-prescribed EPA clause if you determine that use of the above provision is inappropriate (e.g., DFARS 252.216-7000, Economic Price Adjustment—Basic Steel, Aluminum, Brass, Bronze, or Copper Mill Products).</li> </ul>
Adjustment Based on Established Prices—Semistandard Supplies	<ul style="list-style-type: none"> <li>• Use when contracting by negotiation and all the following conditions are met:               <ul style="list-style-type: none"> <li>– A fixed-price contract is contemplated.</li> <li>– Contract is for semistandard supplies with prices that can be reasonably related to the prices of nearly equivalent standard supplies with an established catalog or market price.</li> </ul> </li> <li>• If the contract unit price reflects a net price after applying a trade discount from a catalog or list price, document both the catalog or list price and the discount.</li> <li>• Before contract award, reach agreement in writing with the contractor on the identity of the standard item related to each line item.</li> <li>• If the supplies are standard, except for preservation, packaging, and packing, use the Standard Supplies provision, above.</li> </ul>	<ul style="list-style-type: none"> <li>• Economic Price Adjustment—Semistandard Supplies (FAR 52.216-3); or</li> <li>• An agency-prescribed EPA clause if you determine that use of the above provision is inappropriate.</li> </ul>

(Table continued on page)

EPA Provisions in  
Negotiated  
Contract  
(continued)

Type Price Adjustment	When you have determined that use of an FPEPA contract is appropriate,...	Contract Provision
Adjustment Based on Actual Cost of Labor or Material	<ul style="list-style-type: none"> <li>• Use when contracting by negotiation and all the following conditions are met: <ul style="list-style-type: none"> <li>– A fixed-price contract is contemplated.</li> <li>– No major design engineering or development is involved.</li> <li>– One or more identifiable labor or material cost factors is subject to change.</li> </ul> </li> <li>• In the contract Schedule describe in detail: <ul style="list-style-type: none"> <li>– Types of labor and materials subject to adjustment under the provision.</li> <li>– Labor rates, including fringe benefits that may be increased or decreased.</li> <li>– Quantities of the specified labor and materials allocable to each unit to be delivered under the contract.</li> </ul> </li> <li>• In negotiating adjustments under the contract: <ul style="list-style-type: none"> <li>– Consider work in process and materials on hand at the time of changes in labor rates, including fringe benefits.</li> <li>– Do not adjust any indirect costs except fringe benefits.</li> <li>– Consider only fringe benefits specified in the contract Schedule.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Economic Price Adjustment—Labor and Material (FAR 52.216-4); or</li> <li>• An agency-prescribed EPA clause if you determine that use of the above provision is inappropriate (e.g., DFARS 252.216-7001, Economic Price Adjustment— Nonstandard Steel Items).</li> </ul>
Adjustments Based on Cost Indexes of Labor or Material	<ul style="list-style-type: none"> <li>• You may use a clause providing for adjustment based on cost indexes for labor or material when: <ul style="list-style-type: none"> <li>– Contract involves an extended performance period with significant costs beyond one year.</li> <li>– Contract amount subject to adjustment is substantial.</li> <li>– Labor and material prices are too unstable to permit reasonable division of risk between the contractor and the Government without an EPA clause.</li> </ul> </li> </ul>	EPA clause prepared and approved under agency procedures.



EPA Provisions in  
Sealed Bidding

FAR 14.407-4

In sealed bidding, you cannot negotiate an EPA clause. When you prepare the invitation for bids (IFB), the contract clause must be established in a way that is compatible with the requirements of the sealed bidding process.

<b>When an IFB contains an economic price adjustment clause and...</b>	<b>Then...</b>
No bidder takes exception to the clause	Evaluate bids on the basis of the quoted prices without adding the allowable EPA.
A bidder increases the maximum percentage of EPA stipulated in the invitation or limits the downward EPA provisions of the IFB	Reject the bid as nonresponsive.
A bid indicates deletion of the EPA clause	Reject the bid as nonresponsive because downward adjustment is limited by the deletion.
A bidder decreases the maximum percentage of EPA stipulated in the invitation	Evaluate bids at the base price. If the bidder with the reduced ceiling is in position to receive award, the award shall reflect the lower ceiling.

<b>When an IFB does not contain an economic price adjustment clause, but a bidder proposes one...</b>	<b>Then...</b>
With a ceiling that the price will not exceed	Evaluate the bid on the basis of the maximum possible EPA of the quoted price. If the bid is eligible for award, request the bidder to agree to the inclusion in the contract of an approved EPA clause subject to the same ceiling. If the bidder will not agree to an approved clause, award may be made based on the original bid.
Without a ceiling that the price will not exceed	Reject the bid unless there is a clear basis for evaluation.

Developing an  
EPA Clause Based  
on Cost Indexes

DFARS 216.203-4(d)

When you develop an EPA clause based on cost indexes for labor or material, the clause must be prepared and approved in accordance with agency procedures. Assure that the clause:

- Is not unnecessarily complex.
- Accurately identifies the index(es) which will be used in making adjustments:
  - Normally, you should not use more than two indexes, one for labor (direct and indirect) and one for material (direct and indirect).
  - The index should encompass a large sample of relevant items while still bearing a logical relationship to the type of contract costs being adjusted.

*(Topic continued on next page)*

Developing an  
EPA Clause Based  
on Cost Indexes  
(continued)

- Commonly used indexes include the following series published by the U.S. Department of Labor, Bureau of Labor Statistics (BLS):
  - Producer Price Index for industrial commodities.
  - Employment Cost Index for wages and salaries, benefits, and compensation costs for aerospace industries.
  - Wages and Income Series by Standard Industrial Classification (SIC).
- If no single index relates directly to the costs to be adjusted, you may need to develop a composite index.
- Clearly identifies a base period and times or events that will trigger price adjustments.
  - Adjustments should be frequent enough to afford the contractor appropriate economic protection without creating a burdensome administrative effort.
  - Normally, the adjustment period should range from quarterly to annually.
- States the percentage of the base price that is subject to adjustment.
  - Normally, do not apply adjustments to the profit portion of contract price. You should obtain adequate information from the contractor and other sources to assure that the baseline is reasonable.
  - Exclude any areas of cost that do not require adjustment, such as firm fixed-price subcontracts, areas of overhead (e.g., depreciation) that should remain relatively stable, labor costs covered by a union agreement, and other costs not likely to be affected by changes in the economy.
  - Allocate the portions of contract price subject to adjustment to specific periods of time based on a predetermined rate of expenditure in lieu of actual costs incurred. In a competitive acquisition, approximate the average of all companies solicited so that all firms can compete on an equal basis. In a noncompetitive acquisition, allocations are subject to negotiation and agreement. For multiyear contracts, establish predetermined expenditure profiles for each annual increment.
  - The clause should state that the portion of contract price subject to adjustment shall not be modified except in the event of significant changes in contract scope.

*(Topic continued on next page)*

Developing an  
EPA Clause Based  
on Cost Indexes  
(continued)

- Provides for all potential economic fluctuations within the original contract period, including options. Do not provide for an adjustment beyond the original contract period, including options.
  - Clearly identifies any limits on adjustment, ceiling on upward adjustments or floor on downward adjustments. Normally, you should not include a ceiling or a floor for adjustment unless the adjustment is based on indexes below the four digit level of the BLS indexes.
  - Clearly identifies any minimum change required to trigger adjustment. For example, the contract could state that, “No adjustment will be made unless the index indicates a price change of 2 percent or more from base period prices. However, if the index does indicate an increase or decrease of more than 2 percent, the adjustment will consider the full amount of the change for the portion of contract price indicated in the contract.”
  - Clearly identifies any requirement for the prime contractor to extend EPA coverage to subcontractors to assure a proper allocation of risk.
  - Clearly states how EPA adjustments will be considered in applying any cost incentives included in the contract. Normally, a contract which includes a cost incentive provision should provide that any sums paid to the contractor because of EPA provisions must be subtracted from the total allowable costs, for the purpose of establishing the total costs to which the provision applies.
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## 6.2.2 Making an Economic Price Adjustment Using Cost Indexes

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### Steps in Making an EPA

When you have developed and awarded an FPEPA contract based on cost index(es), you must administer the EPA provisions as presented in the contract. In general, the adjustment process will follow five steps:

**Step 1 Identify the index(es) which will be used in making adjustments:**

**Step 2 Identify the base period and times or events that will trigger price adjustments.**

**Step 3 Identify the percentage of the base price subject to adjustment.**

**Step 4 Identify any adjustment ceiling or floor.**

**Step 5 Calculate the adjusted price.**

**Economic Price Adjustment Example.** The following example demonstrates the application of the above steps in making a contract price adjustment for a manufactured item. In the example, an EPA clause was included in the contract, awarded in December 19X1, for deliveries during calendar year 19X2. An estimated 25 percent of the contract price is related to the market price of silver and fluctuations in the market make it extremely difficult to estimate costs over the next year.

#### **Step 1. Identify the Index(es)**

The contract states that price adjustments will be made using the Producer Price Index (PPI) for “silver bar, refined, .999 fine” (PPI 1022-0272)

#### **Step 2. Identify the Base Period and Adjustment Triggers**

The contract provides for adjustment consideration using the April 19X2 index for scheduled second quarter deliveries, the July 19X2 index for scheduled third quarter deliveries, and the October 19X2 index for scheduled fourth quarter deliveries. The base period for adjustment purposes is December 19X1. The calculation presented below is for the 5,000 units scheduled for delivery during the second quarter of 19X2.

#### **Step 3. Identify the Percentage Subject to Adjustment**

The EPA clause states that 25 percent of the contract unit price is subject to adjustment. The unadjusted contract unit price is \$200 per unit. That means that \$50 of the unit price is subject to adjustment and \$150 is not subject to adjustment.

*(Topic continued on next page)*

Steps in Making  
an EPA  
(continued)

#### **Step 4. Identify Any Limits on Adjustment**

Because of the extreme volatility of the silver market, the EPA clause does not establish a limit on adjustment.

#### **Step 5. Calculate the Adjusted Unit Price**

Adjust the price using the index for April 19X2 using the following formula:

$$\text{Adjusted Unit Price} = \left[ \frac{I_2}{I_1} \times S(P) \right] + [(1 - S)(P)]$$

Where:

$I_1$  = Index for Base Period = 45.0 in December 19X1

$I_2$  = Index for Adjustment Period = 67.5 in April 19X2

$S$  = Percentage of Price Subject to Adjustment = 25%

$P$  = Base Unit Contract Price = \$200

$$\begin{aligned} \text{Adjusted Unit Price} &= \frac{67.5}{45.0} \times .25(\$200) + (1 - .25)(\$200) \\ &= (1.50 \times \$50) + \$150 \\ &= \$75 + \$150 \\ &= \$225 \end{aligned}$$

The total price for the 5,000 units scheduled for delivery during the second quarter is \$1,125,000. The economic price adjustment is a \$125,000 increase.

## 6.3 STRUCTURING AND APPLYING INCENTIVE PRICING ARRANGEMENTS

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### Introduction

FAR 16.401 FAR 16.402
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Incentive contracts are designed to obtain specific acquisition objectives by positively rewarding identified contractor achievements exceeding stated target(s) and negatively rewarding contractor failures to attain stated targets. Profit/fee will increase when target(s) are surpassed. They will decline when target(s) are not achieved. Changes in profit/fee will follow an agreed-to formula-type incentive arrangement.

Contracts may include cost incentives, technical incentives, and delivery incentives. Contracts with multiple incentives should be structured to compel trade-off decisions among the incentive areas. In particular, be careful to avoid using too many incentives. If there are too many incentives, it may be impossible for the contractor to logically consider the trade-offs available and determine the effect on profit/fee.

- Most incentive contracts include only an incentive for controlling cost. You cannot provide for other incentives without also providing a cost incentive or constraint.
- Consider technical performance incentives in connection with specific product characteristics or other specific elements of contract performance. When a variety of specific characteristics contribute to the overall contract performance, you must balance the incentives so that no one of them is exaggerated to the detriment of overall contract performance.
- Consider delivery incentives when improvement from a required delivery schedule is a significant Government objective. Delivery incentives should specify the application of the incentive structure in the event of delays beyond the control and without the fault or negligence of the contractor or subcontractor.

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### Types of Incentive Contracts

FAR 16.401
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There are three types of incentive contracts that provide for changes in profit/fee following an agreed-to formula-type incentive arrangement: the fixed-price incentive firm (FPIF), fixed-price incentive successive targets (FPIS), and cost-plus-incentive-fee (CPIF). Because the FPIF and CPIF contracts are used much more frequently than FPIS contracts, the remainder of this section will concentrate on the development of these pricing arrangements.

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### 6.3.1 Structuring a Cost Incentive Pricing Arrangement

#### Basic Elements of Incentive Arrangement

The basic elements of the cost incentives in CPIF contract and the FPIF contracts are compared in the table below.

Contract Elements	
FPIF Contract	CPIF Contract
Target Cost	Target Cost
Target Profit	Target Fee
Profit Adjustment Formula	Fee Adjustment Formula
Price Ceiling	Minimum Fee
	Maximum Fee

#### Target Cost

Both FPIF contracts and CPIF contracts have a target cost. The target cost is the amount that you and the contractor agree is the most likely contract cost.

What is a good target cost? The target cost should be the most likely contract cost. You and the contractor must reach agreement on target cost based on judgment and the facts available at the time of contract negotiation.

#### Target Profit/Fee

Profit is the difference between cost and price in a fixed-price contract. Fee is the difference between cost and price in a cost-reimbursement contract. Target profit/fee is the difference between cost and price at target cost.

Your profit/fee objective should be based on the results of your analysis using your agency's structured approach to profit/fee analysis.

#### Adjustment Formula

The adjustment formula represents the allocation of cost risk between the Government and the contractor. The adjustment formula is normally described as a share ratio written as:

$$S_G/S_C$$

When:

$S_G$  = Percentage of Cost Risk Assumed by the Government

$S_C$  = Percentage of Cost Risk Assumed by the Contractor

The two parts ( $S_G + S_C$ ) of the ratio must always total 100 percent of the cost risk (e.g., 70/30).

*(Topic continued on next page)*

Adjustment  
Formula  
(continued)

A 70/30 share ratio means that the Government accepts 70 percent of the cost risk and the contractor accepts 30 percent. A 60/40 share ratio means that the Government accepts 60 percent of the cost risk and the contractor accepts 40 percent.

You should develop the contract share ratio by performing an analysis of reasonable changes in profit/fee over the range of probable costs. Consider the following steps in developing share ratio negotiation objective(s):

**Step 1. Develop a target cost objective as described above.**

**Step 2. Develop a target profit/fee objective as described above.**

**Step 3. Develop a pessimistic cost estimate.**

The target cost is only one cost in the range of reasonable costs. The pessimistic cost should be an estimate of the highest cost that you would consider probable based on the information available at the time of contract negotiation.

**Step 4. Develop an estimate of an appropriate profit/fee if costs reached the pessimistic cost estimate.**

In your analysis, consider the target profit/fee objective and the quality of contractor effort required to limit costs to the pessimistic cost estimate.

**Step 5. Develop an optimistic cost estimate.**

The optimistic cost should be an estimate of the lowest cost that you would consider probable based on the information available at the time of contract negotiation. There is no reason that the difference between target cost and the optimistic cost must be equal to the difference between target cost and pessimistic cost. If fact, the two will normally not be equal.

**Step 6. Develop an estimate of an appropriate profit/fee if costs were limited to the optimistic cost estimate.**

In your analysis, consider the target profit/fee objective and the quality of contractor effort required to limit costs to the optimistic cost estimate.

*(Topic continued on next page)*



Adjustment  
Formula  
(continued)

**Step 7. Calculate the under target share ratio.**

Contractor Share. Use the following formula to calculate the contractor's percentage share of cost risk:

$$S_C = \frac{P_T - P_O}{C_T - C_O} \times (-100)$$

Where:

$S_C$  = Contractor percentage share of cost risk (This will be a negative number, indicating that profit/fee will go up as costs go down.)

$P_T$  = Target profit/fee

$P_O$  = Profit/fee at optimistic cost estimate

$C_T$  = Target cost

$C_O$  = Optimistic cost estimate

Government Share. Calculate the Government share of cost risk by subtracting the contractor share from 100 percent:

$$S_G = 100\% - S_C$$

Where:

$S_G$  = Government percentage share of cost risk

$S_C$  = Contractor percentage share of cost risk

Under Target Share Ratio. Write the under target share ratio as  $S_G/S_C$ .

*(Topic continued on next page)*

Adjustment  
Formula  
(continued)

**Step 8. Calculate the over target share ratio.**

Contractor Share. Use the following formula to calculate the contractor's percentage share of cost risk:

$$S_C = \frac{P_T - P_P}{C_T - C_P} \times (-100)$$

Where:

$S_C$  = Contractor percentage share of cost risk (This will be a negative number, indicating that profit/fee will go down as costs go up.)

$P_T$  = Target profit/fee

$P_P$  = Profit/fee at pessimistic cost estimate

$C_T$  = Target cost

$C_P$  = Pessimistic cost estimate

Government Share. Calculate the Government share of cost risk by subtracting the contractor share from 100 percent:

$$S_G = 100\% - S_C$$

Where:

$S_G$  = Government percentage share of cost risk

$S_C$  = Contractor percentage share of cost risk

Over Target Share Ratio. Write the over target share ratio as  $S_G/S_C$ .

*(Topic continued on next page)*

Adjustment  
Formula  
(continued)

**Adjustment Formula Example.** You have analyzed a contractor's proposal considering all available information. As a result of your analysis, you have completed Steps 1 through 6 and prepared the three positions presented in the table below. You must now use this information to calculate the under target and over target share ratios.

Proposal Analysis			
Element	Optimistic Cost Position	(Target) Most Likely Cost Position	Pessimistic Cost Position
Direct Material	\$250,000	\$300,000	\$320,000
Direct Labor	\$320,000	\$400,000	\$600,000
Indirect Cost	<u>\$230,000</u>	<u>\$300,000</u>	<u>\$380,000</u>
Total Cost	\$800,000	\$1,000,000	\$1,300,000
Profit/Fee	<u>\$180,000</u>	<u>\$100,000</u>	<u>\$10,000</u>
Total Price	\$980,000	\$1,100,000	\$1,310,000

Step 7. Calculate the under target share ratio.

Contractor Share.

$$\begin{aligned}
 S_C &= \frac{P_T - P_O}{C_T - C_O} \times (-100) \\
 &= \frac{\$100,000 - \$180,000}{\$1,000,000 - \$800,000} \times (-100) \\
 &= \frac{-\$80,000}{\$200,000} \times (-100) \\
 &= 40 \text{ percent}
 \end{aligned}$$

Government Share.

$$\begin{aligned}
 S_G &= 100\% - S_C \\
 &= 100\% - 40\% \\
 &= 60\%
 \end{aligned}$$

Under Target Share Ratio. Write the under target share ratio as 60/40.

(Example continued on next page)

Adjustment  
Formula  
(continued)

Step 8. Calculate the over-target share ratio.

Contractor Share.

$$\begin{aligned}
 S_C &= \frac{P_T - P_P}{C_T - C_P} \times (-100) \\
 &= \frac{\$100,000 - \$10,000}{\$1,000,000 - \$1,300,000} \times (-100) \\
 &= \frac{\$90,000}{-\$300,000} \times (-100) \\
 &= 30\%
 \end{aligned}$$

Government Share.

$$\begin{aligned}
 S_G &= 100\% - S_C \\
 &= 100\% - 30\% \\
 &= 70\%
 \end{aligned}$$

Over Target Share Ratio. Write the over target share ratio as 70/30. Note that the over-target share ratio and the under-target share ratio are not always the same.

Cost-Plus-  
Incentive-Fee  
Contract

As you learned above, the basic elements of the CPIF contract and the FPIF contract are quite similar. Both have a target cost. CPIF target fee and FPIF target profit are both developed using structured profit/fee analysis. Both have sharing arrangements for costs over and under target.

The differences between the CPIF and FPIF pricing arrangements occur when contract costs are substantially above or below target cost. The CPIF contract pricing arrangement must include a minimum fee and a maximum fee that define the contract range of incentive effectiveness (RIE). When costs are above or below the RIE, the Government assumes full cost risk for each additional dollar spent within the funding or cost limits established in the contract.

*(Topic continued on next page)*

Cost-Plus-  
Incentive-Fee  
Contract  
(continued)

**Minimum Fee.** No matter what fee you calculate using the share ratio, the contractor's actual fee cannot be less than the minimum fee stated in the contract. In effect, you are telling the contractor that the Government will accept the risk of contract cost exceeding the cost at the point where minimum fee is reached. Logically, the pricing arrangement should be structured so that the minimum fee is reached at the pessimistic estimate of probable cost.

The minimum fee may be zero, but it should not be less than zero.

**Maximum Fee.** No matter what fee you calculate using the share ratio, the contractor's actual fee cannot be more than the maximum fee stated in the contract. Logically, the pricing arrangement should be structured so that the maximum fee is reached at the optimistic estimate of probable cost.

Unless you obtain a deviation from the requirements of FAR 15.903, the maximum fee shall not exceed:

- 15 percent of target cost for experimental, developmental, or research work.
- 10 percent of target cost for other contracts.

*(Topic continued on next page)*

Cost-Plus-Incentive-Fee Contract  
(continued)

**CPIF Example.** Use the proposal analysis in the following table to develop a contract pricing arrangement including: target cost, target fee, under-target share ratio, over-target share ratio, maximum fee, and minimum fee.

CPIF Proposal Analysis			
Element	Optimistic Cost Position	(Target) Most Likely Cost Position	Pessimistic Cost Position
Direct Material	\$250,000	\$300,000	\$350,000
Direct Labor	\$320,000	\$400,000	\$600,000
Indirect Cost	<u>\$230,000</u>	<u>\$300,000</u>	<u>\$450,000</u>
Total Cost	\$800,000	\$1,000,000	\$1,400,000
Profit/Fee	<u>\$120,000</u>	<u>\$70,000</u>	<u>\$20,000</u>
Total Price	\$920,000	\$1,070,000	\$1,420,000

Target Cost: This should be the most likely cost, \$1,000,000

Target Fee: The \$70,000 in the “Most Likely Cost Position” column in above table was developed using structured fee analysis.

Steps 1-6 completed in the table above.

Step 7. Calculate the under-target share ratio.

Contractor Share.

$$\begin{aligned}
 S_C &= \frac{P_T - P_O}{C_T - C_O} \times (-100) \\
 &= \frac{\$70,000 - \$120,000}{\$1,000,000 - \$800,000} \times (-100) \\
 &= \frac{-\$50,000}{\$200,000} \times (-100) \\
 &= 25\%
 \end{aligned}$$

Government Share.

$$\begin{aligned}
 S_G &= 100\% - S_C \\
 &= 100\% - 25\% \\
 &= 75\%
 \end{aligned}$$

Under-Target Share Ratio. Write the under-target share ratio as 75/25.

*(Example continued on next page)*

Cost-Plus-Incentive-Fee Contract  
(continued)

Step 8. Calculate the over-target share ratio.

Contractor Share.

$$\begin{aligned} S_C &= \frac{P_T - P_P}{C_T - C_P} \times (-100) \\ &= \frac{\$70,000 - \$20,000}{\$1,000,000 - \$1,400,000} \times (-100) \\ &= \frac{\$50,000}{-\$400,000} \times (-100) \\ &= 12.5\% \end{aligned}$$

Government Share.

$$\begin{aligned} S_G &= 100\% - S_C \\ &= 100\% - 12.5\% \\ &= 87.5\% \end{aligned}$$

Over-Target Share Ratio. Write the over-target share ratio as 87.5/12.5.

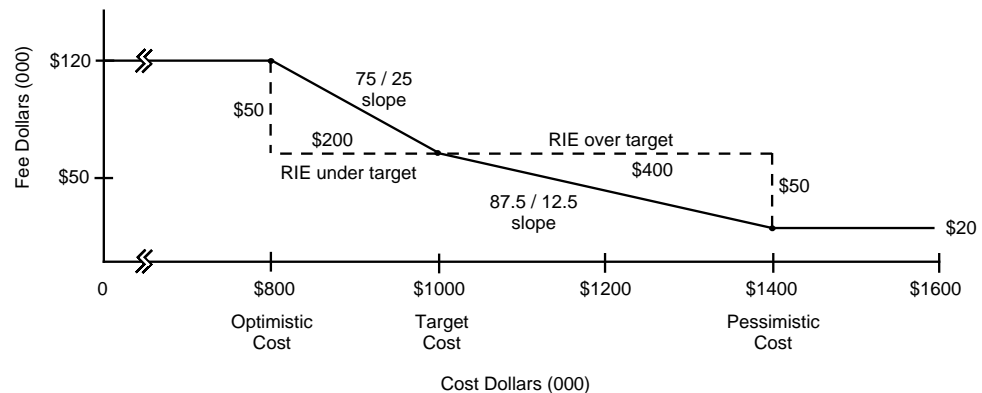
**Maximum Fee:** Maximum fee should be the fee at the optimistic cost. That fee is \$120,000. Note that this fee is 12 percent of target cost. That is within the FAR 15.903 limits for experimental, developmental, or research work. However, it exceeds the 10 percent limit for other work. If this contract were for other work, you would need to revise the pricing arrangement or obtain a waiver to FAR 15.903.

**Minimum Fee:** Minimum fee should be the fee at the pessimistic cost. That fee is \$20,000.

*(Example continued on next page)*

### Cost-Plus-Incentive-Fee Contract (continued)

The figure below depicts the CPIF pricing arrangement calculated above.



CPIF Arrangement

**Range of Incentive Effectiveness.** The range of incentive effectiveness (RIE) is the range over which CPIF incentives can be expected to motivate contractor performance. The RIE is not identified in the contract, but it is defined by the share ratio(s), minimum fee, and maximum fee. The cost incentive will be effective in the range between the cost point where the maximum fee is reached and the cost point where the minimum fee is reached. Beyond these points, the contractor has no contract incentive to control cost, because fee is fixed.

In the example above, we developed the following pricing arrangement:

Target Cost	\$1,000,000
Target Fee	\$70,000
Under-Target Share Ratio	75/25
Over-Target Share Ratio	87.5/12.5
Maximum Fee	\$120,000
Minimum Fee	\$20,000

Note that the optimistic cost and pessimistic cost used to develop the pricing arrangement are not given in the terms of the pricing arrangement. If a contractor had presented an offer which included the elements above, you could calculate the offer RIE using the following formulas to calculate the optimistic cost and pessimistic cost:

*(Topic continued on next page)*



**Optimistic Cost**

$$C_O = C_T - \frac{P_O - P_T}{S_{CU}}$$

Where:

 $C_O$  = Optimistic Cost $C_T$  = Target Cost $P_T$  = Target Fee $P_O$  = Maximum Fee (Fee at optimistic cost) $S_{CU}$  = Contractor Under-Target Share**Pessimistic Cost**

$$C_P = C_T + \frac{P_T - P_P}{S_{CO}}$$

Where:

 $C_P$  = Pessimistic Cost $C_T$  = Target Cost $P_T$  = Target Fee $P_P$  = Minimum Fee (Fee at pessimistic cost) $S_{CO}$  = Contractor Over Target Share

**Example:** We can use the pricing arrangement above to calculate the optimistic and pessimistic costs used to develop the pricing arrangement.

**Step 1. Calculate the optimistic cost that is consistent with the pricing arrangement.**

$$\begin{aligned} C_O &= C_T - \frac{P_O - P_T}{S_{CU}} \\ &= \$1,000,000 - \frac{\$120,000 - \$70,000}{25\%} \\ &= \$1,000,000 - \frac{\$50,000}{25\%} \\ &= \$1,000,000 - \$200,000 \\ &= \$800,000 \end{aligned}$$

\$800,000 is the optimistic cost estimate (Note this is the number that we used in developing the pricing arrangement.)

**Step 2. Calculate the pessimistic cost that is consistent with the pricing arrangement.**

$$\begin{aligned}
 C_P &= C_T + \frac{P_T - P_P}{S_{CO}} \\
 &= \$1,000,000 + \frac{\$70,000 - \$20,000}{12.5\%} \\
 &= \$1,000,000 + \frac{\$50,000}{12.5\%} \\
 &= \$1,000,000 + \$400,000 \\
 &= \$1,400,000
 \end{aligned}$$

\$1,400,000 is the pessimistic cost estimate (Note this is the number that we used in developing the pricing arrangement.)

**Step 3. Use the calculated optimistic cost and the pessimistic cost to describe the RIE.**

The RIE in this example would be \$800,000 to \$1,400,000. Outside that range, the proposed incentive arrangement would not incentivize the contractor to control costs.

Fixed-Price  
Incentive Firm  
Contract

The FPIF contract does not have a maximum profit, the share ratio remains in effect throughout the range of under-target costs. Instead of a minimum profit, the FPIF contract must include a ceiling price. If costs exceed the ceiling price, the contractor assumes full cost risk for each additional dollar spent.

**Ceiling Price.** No matter what profit you calculate using the share ratio, the actual price cannot exceed the ceiling price stated in the contract. Logically, the pricing arrangement should be structured so that the ceiling price is equal to cost plus profit at the pessimistic cost estimate.

*(Topic continued on next page)*

Fixed-Price  
Incentive Firm  
Contract  
(continued)

FPIF Example. Use the proposal analysis in the following table to develop a contract pricing arrangement including: target cost, target profit, under-target share ratio, over-target share ratio, and ceiling price.

FPIF Proposal Analysis			
Element	Optimistic Cost Position	(Target) Most Likely Cost Position	Pessimistic Cost Position
Direct Material	\$250,000	\$300,000	\$350,000
Direct Labor	\$320,000	\$400,000	\$500,000
Indirect Cost	<u>\$230,000</u>	<u>\$300,000</u>	<u>\$450,000</u>
Total Cost	\$800,000	\$1,000,000	\$1,300,000
Profit/Fee	<u>\$150,000</u>	<u>\$100,000</u>	<u>\$25,000</u>
Total Price	\$950,000	\$1,100,000	\$1,325,000

Target Cost: This should be the most likely cost, \$1,000,000

Target Profit: The \$100,000 in the “Most Likely Cost Position” column in above table was developed using structured fee analysis.

Steps 1-6 completed in the table above.

Step 7. Calculate the under-target share ratio.

Contractor Share.

$$\begin{aligned}
 S_C &= \frac{P_T - P_O}{C_T - C_O} \times (-100) \\
 &= \frac{\$100,000 - \$150,000}{\$1,000,000 - \$800,000} \times (-100) \\
 &= \frac{-\$50,000}{\$200,000} \times (-100) \\
 &= 25\%
 \end{aligned}$$

Government Share.

$$\begin{aligned}
 S_G &= 100\% - S_C \\
 &= 100\% - 25\% \\
 &= 75\%
 \end{aligned}$$

*(Example continued on next page)*

Under-Target Share Ratio. Write the under-target share ratio as 75/25.

Step 8. Calculate the over-target share ratio.

Fixed-Price  
Incentive Firm  
Contract  
(continued)

Contractor Share.

$$\begin{aligned}
 S_C &= \frac{P_T - P_P}{C_T - C_P} \times (-100) \\
 &= \frac{\$100,000 - \$25,000}{\$1,000,000 - \$1,300,000} \times (-100) \\
 &= \frac{\$75,000}{-\$300,000} \times (-100) \\
 &= 25\%
 \end{aligned}$$

Government Share.

$$\begin{aligned}
 S_G &= 100\% - S_C \\
 &= 100\% - 25\% \\
 &= 75\%
 \end{aligned}$$

**Over-Target Share Ratio.** Write the over-target share ratio as 75/25. Note that for this contract, the over-target and under-target share ratios happen to be the same, but the range of dollars between target cost and the pessimistic estimate of probable cost is much larger than the range of dollars between the target cost and the optimistic estimate of probable cost.

**Ceiling Price:** The ceiling price should be the price at the pessimistic cost estimate of \$1,325,000.

*(Topic continued on next page)*

Fixed-Price  
Incentive Firm  
Contract  
(continued)

**Point of Total Assumption.** The point of total assumption (PTA) is the cost at which the contractor assumes total responsibility for each additional dollar of contract cost. This point is not identified in the contract, but it is defined by the target price, target cost, share ratio(s), and ceiling price. The PTA can be found mathematically using the following formula:

$$PTA = \frac{K_C - K_T}{S_G} + C_T$$

Where:

PTA = Point of total assumption

$K_C$  = Ceiling price

$K_T$  = Target price

$C_T$  = Target cost

$S_G$  = Government percentage share of cost risk

For the example above, the calculations would be:

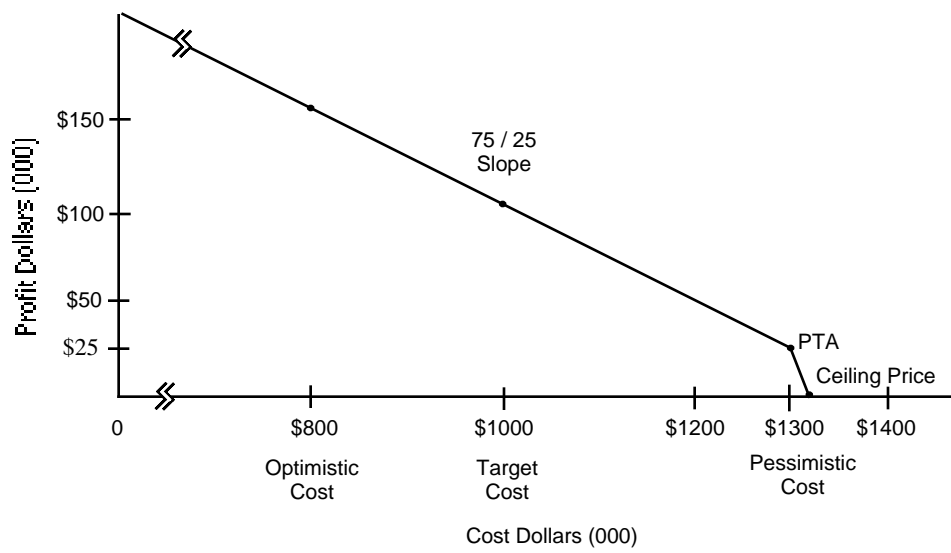
$$\begin{aligned} PTA &= \frac{\$1,325,000 - \$1,100,000}{75\%} + \$1,000,000 \\ &= \frac{\$225,000}{75\%} + \$1,000,000 \\ &= \$300,000 + \$1,000,000 \\ &= \$1,300,000 \end{aligned}$$

Note that the PTA is equal to the cost at the pessimistic cost estimate. After the contract cost reaches \$1,300,000, each additional dollar of cost comes from profit. When cost exceeds \$1,325,000, each additional dollar of cost increases the loss (negative profit) on the contract.

*(Topic continued on next page)*

Fixed-Price  
Incentive Firm  
Contract  
(continued)

The figure below depicts the FPIF pricing arrangement calculated above.



FPIF Arrangement

## 6.3.2 Applying a Cost Incentive Pricing Arrangement

Introduction	The contract pricing structure will be determined at the time of contract award. This section will examine the application of the incentive pricing arrangement to calculate final contract price.
CPIF Contract Final Price	<p>Cost-reimbursement contracts provide for payment of allowable incurred costs, to the extent prescribed in the contract. In a CPIF contract, final fee will depend on the allowable cost incurred.</p> <p>Follow the steps below in calculating final contract price</p> <p><b>Step 1. Calculate final allowable contract cost based on the contractor's final vouchers, Government audit results, and other available information. Exclude all costs specifically identified as unallowable.</b></p> <p><b>Step 2. Determine final cost for fee adjustment purposes.</b></p> <p>For the purposes of fee adjustment, do NOT include costs arising from:</p> <ul style="list-style-type: none"> <li>• Any of the causes covered by the contract Excusable Delays clause to the extent that the costs are beyond the control and without the fault or negligence of the contractor or any subcontractor.</li> <li>• The taking effect, after target cost negotiation, of a statute, court decision, written ruling, or regulation that results in the contractor's being required to pay or bear the burden of any tax or duty or rate increase in a tax or duty.</li> <li>• Any direct cost attributed to the contractor's involvement in litigation as required by the contracting officer pursuant to contract requirements, including furnishing evidence and information requested pursuant to the contract Notice and Assistance Regarding Patent and Copyright Infringement clause.</li> </ul>

*(Topic continued on next page)*

FAR 52.216-10(e)(5)

- The purchase and maintenance of additional insurance not in the target cost and required by the contracting officer, or claims for reimbursement for liabilities to third persons pursuant to the contract Insurance Liability and Third Persons clause.
- Any claim, loss, or damage resulting from a risk for which the contractor has been relieved of liability by the contract Government property clause.
- Any claim, loss, or damage resulting from a risk identified in the contract as unusually hazardous or as a nuclear risk and against which the Government has expressly agreed to indemnify the contractor
- Any other costs specifically excluded from fee calculations by the contract.

**Step 3. Calculate the contractor's share of any costs over or under target using the final contract cost calculated in Step 2, target cost, and the appropriate share ratio.**

$$F_A = S_C(C_T - C_F)$$

Where:

$F_A$  = Fee Adjustment

$S_C$  = Contractor percentage share of cost risk

$C_F$  = Final contract cost

$C_T$  = Target contract cost

**Step 4. Adjust contract fee considering the contractor's share of any costs over or under target as calculated in Step 2.**

**Step 5. If the fee calculated in Step 3 is more than the maximum fee or less than the minimum fee, adjust it to the appropriate fee.**

**Step 6. Add the final fee to final cost to determine final contract price.**

**Step 7. Modify the contract, using a bilateral contract modification, to incorporate agreement on final cost and fee.**

*(Topic continued on next page)*



CPIF Contract  
Final Price  
(continued)

**CPIF Contract Final Price Example.** You and the contractor agree that the final cost on a CPIF contract is \$1,100,000. Contract target cost is \$1,000,000; target fee is \$70,000; minimum fee is \$20,000; and the over-target share ratio is 87.5/12.5.

Step 1. Final contract cost is \$1,100,000

Step 2. In this contract no costs are excluded from fee calculations, so the final cost for fee calculations is \$1,100,000

Step 3. Calculate contractor's share of the cost over-target.

$$\begin{aligned} F_A &= S_C(C_T - C_F) \\ &= 12.5\% (\$1,000,000 - \$1,100,000) \\ &= 12.5\% (-\$100,000) \\ &= -\$12,500 \end{aligned}$$

Step 4. Adjust contract fee considering contractor's share of over-target or under-target costs.

$$\$70,000 - \$12,500 = \$57,500$$

Step 5. Adjust fee if it is less than the minimum fee or more than the maximum fee. No adjustment is required.

Step 6. Add the final fee to final cost to determine final contract price.

$$\$1,100,000 + \$57,500 = \$1,157,500$$

Step 7. Modify the contract to indicate that the final contract price is \$1,157,500

*(Topic continued on next page)*

FPIF Contract  
Final Price

Computation of the final price under an FPIF contract is very similar to computation of final price under a CPIF contract. The major difference is that total price cannot exceed the contract ceiling price.

Follow the steps below in calculating final contract price.

**Step 1. Review the contractor's final cost proposal to develop a position on final contract cost.**

- Assure that the final cost proposal is complete with all required documents (e.g., Standard Form 1411 when required).
- Develop a negotiation position based on Government audit recommendations and other available information

**Step 2. Calculate the contractor's share of any costs over or under target using the final cost, target cost, and the appropriate share ratio.**

$$P_A = S_C(C_T - C_F)$$

Where:

$P_A$  = Profit Adjustment

$S_C$  = Contractor percentage share of cost risk

$C_F$  = Final contract cost

$C_T$  = Target contract cost

**Step 3. Adjust contract profit considering the contractor's share of any costs over or under target as calculated in Step 3.**

**Step 4. Add the final profit to final cost to determine final contract price.**

**Step 5. If the price calculated in Step 5 exceeds the contract ceiling price, the final contract price will be the ceiling price.**

*(Topic continued on next page)*

FPIF Contract  
Final Price  
(continued)

**Step 6. Negotiate final contract price.**

- Use the results of Steps 1 through 6 as your objective in negotiating contract final cost. If the contractor provides additional support that leads you to modify your position on final cost, modify your position on final profit and price accordingly.
- When you reach a agreement on final contract price, modify the contract, using a bilateral contract modification, to incorporate agreement on final cost and profit.
- If you cannot reach a final price agreement, it may be necessary for you to issue a final decision under the contract Disputes clause

**Step 7. Obtain a final invoice.**

Apply any deductions or withholdings and process the invoice for final payment.

**FPIF Contract Final Price Example.** You and the contractor agree that the final cost on a FPIF contract is \$1,310,000. Contract target cost is \$1,000,000; target profit is \$100,000; and ceiling price is \$1,325,000.

Step 1. The contractor proposed a final contract cost of \$1,310,000. Government review and your analysis did not identify any deficiencies.

Step 2. Contract share of the cost over-target.

$$\begin{aligned}
 P_A &= S_C(C_T - C_F) \\
 &= 25\%(\$1,000,000 - \$1,310,000) \\
 &= 25\%(-\$310,000) \\
 &= -\$77,500
 \end{aligned}$$

Step 3. Adjust contract profit considering contractor's share of over-target or under-target costs.

$$\$100,000 - \$77,500 = \$22,500$$

*(Example continued on next page)*

FPIF Contract  
Final Price  
(continued)

Step 4. Add the final profit to final cost to determine final contract price.

$$\$1,310,000 + \$22,500 = \$1,332,500$$

Step 5. If the price calculated in Step 4 exceeds the contract ceiling price, the final contract price will be the ceiling price. Since the price in Step 4 exceeds the contract ceiling price, the final contract price is the ceiling price \$1,325,000

Step 6. Negotiate final contract price. In this example, negotiation should result in acceptance of the contractor's proposed cost.

Step 7. Obtain a final invoice and process the invoice for final payment.

## 6.4 STRUCTURING AND APPLYING AWARD FEE PRICING ARRANGEMENTS

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### Introduction

An award-fee contract is a form of incentive contract. Unlike the FPIF or CPIF contracts, the award-fee contract does not include predetermined targets and automatic fee adjustment formulas. Contractor performance is motivated by profit/fee adjustments based on a subjective evaluation of contractor performance.

### FAR 16.404-2

**Cost-Plus-Award-Fee.** The cost-plus-award-fee (CPAF) contract is a cost-reimbursement contract that provides for a fee consisting of:

- A base fee fixed at the time of contract award, and
- An award fee that the contractor may earn in whole or in part during contract performance. The award fee must be large enough to motivate the contractor to excel in such areas as quality, timeliness, technical ingenuity, and cost-effective management.

At established points during contract performance, the Government Fee Determining Official will evaluate contractor performance and determine the amount of award fee that the contractor will receive from the available award-fee pool in accordance with criteria stated in the contract. The determination is made unilaterally by the Fee Determining Official and is not subject to the disputes clause.

A CPAF contract should be considered when the following conditions exist:

- It is neither feasible nor effective to devise predetermined objective incentive targets applicable to cost, technical performance, or schedule.
- The likelihood of meeting acquisition objectives will be enhanced by using a contract that effectively motivates the contractor toward exceptional performance and provides the Government with the flexibility to evaluate both actual performance and the conditions under which it was achieved.
- Any additional administrative effort and cost required to monitor and evaluate performance are justified by the expected benefits.

*(Topic continued on next page)*

## Introduction

(continued)

DFARS 216.404-2

In the DoD, a CPAF contract shall not be used:

- To avoid establishing a CPFF contract when the criteria for a CPFF contract apply or developing objective targets so that a CPIF contract can be used.
- For either engineering development or operational development acquisitions which have specifications suitable for simultaneous research and development and production. Except a CPAF contract may be used for individual engineering development or operational system development acquisitions in support of the development of a major weapon system or equipment, where:
  - It is more advantageous to the Government, and
  - The purpose of the acquisition is clearly to determine or solve specific problems associated with the major weapon system or equipment.

DFARS 216.470

**Other Award-Fee Contracts.** The award-fee portion of the award-fee contract can be used in other types of contracts (most commonly in firm fixed-price contracts). In DoD, fixed price award fee contracts may be used when the following conditions exist:

- You wish to motivate and reward a contractor for management performance in areas which cannot be measured objectively and where normal incentives cannot be used (e.g., logistics support, quality, timeliness, ingenuity, and cost effectiveness).
- There is no base fee related to the award-fee application.
- The chief of the contracting office approves use of an award-fee pool.
- An award review board and procedures are established for conduct of the evaluation.
- The administrative costs of evaluation do not exceed the expected benefits.

Once the decision is made to establish the contract, development and administration of the award-fee plan follows the same procedures required for administration of the award fee plan of a CPAF contract.

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### 6.4.1 Structuring an Award Fee Pricing Arrangement

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#### Base Fee Objective

FAR 15.902(a) DFARS 215.974
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Most agencies (including the DoD) exempt CPAF contracts from the requirement for application of the agency's structured approach to fee analysis.

Accordingly, you must subjectively develop your base fee objective for each contract considering the following factors:

- Unless you obtain a deviation from the requirements of FAR 15.903, the sum of base fee and award fee shall not exceed:
  - 15 percent of estimated cost for experimental, developmental, or research work.
  - 10 percent of estimated cost for other contracts.
- The base fee shall not exceed prescribed agency limits (e.g., 3 percent of contract cost for DoD contracts).
- The base fee should be large enough to provide the contractor with an adequate fee for rendering minimum acceptable performance, but small enough to provide an award fee pool that will provide the contractor with an adequate incentive to improve performance above minimum requirements.

DFARS 216.404- 2(c)(2)(B)
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#### Award Fee Objective

The award fee pool is meant to provide the contractor with an incentive to provide more than the minimum level of performance required by the contract. Based on contract performance, the contractor may earn all, part, or none of the available award fee pool.

As with base fee, you must subjectively develop your award fee objective. As you develop your objective consider the following factors:

- Unless you obtain a deviation from the requirements of FAR 15.903, the sum of base fee and award fee shall not exceed:
    - 15 percent of target cost for experimental, developmental, or research work.
    - 10 percent of target cost for other contracts.
  - The award fee pool should be sufficient to motivate or reward the contractor at any level of performance above the minimum designated in the evaluation criteria. Normally, you should expect the sum of the base fee and the award fee pool to exceed the fee objectives that would be provided under a CPFF contract.
-

Contract Award-  
Fee Coverage

FAR 16.405

FAR does not prescribe specific award-fee provisions, it only requires that you insert an appropriate award-fee clause in solicitations and contracts when a CPAF contract is contemplated. FAR requires that the clause:

- Be prescribed by or approved under agency acquisition regulations.
- Be compatible with the Allowable Cost and Payment clause (FAR 52.216-7).
- Expressly exclude from the operation of the Disputes clause any disagreement by the contractor concerning the amount of the award fee.

In preparing the clause, consider the following:

- Base Fee:
  - State the agreed-to amount.
  - State how the base fee will be paid (e.g., equal monthly installments).
- Award Fee:
  - State the total agreed-to amount.
  - State that determinations of the portion of contract award fee earned by the contractor will be made unilaterally and in writing by the Fee Determining Official and that the decisions are not subject to appeal under the contract Disputes clause.
  - Include a provision for the prompt payment of contractor-earned award fee after each determination, without the need for a contract modification.

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Contract Award-  
Fee Coverage  
(continued)

FAR 16.404-2(b)(3)

- Award Fee Determination Process:
  - The award fee determination process need not be spelled out in the contract or in an appendix to the contract. Normally, it is preferable to delineate the award fee determination process in a comprehensive Award Fee Plan that is referenced in the contract.
  - Identify the Award Fee Plan by title and date.
  - State that the Fee Determining Official shall have the unilateral right to change the Award Fee Plan, except for conditions that otherwise require mutual agreement under the contract. The provision must state that the contractor shall receive notice of any change to the Plan by a specified number of work or calendar days prior to the beginning of the evaluation period to which the change will apply.
- Award-Fee Evaluation Points. Award-fee evaluation points should be selected so that the contractor will be periodically informed about performance quality and the areas in which improvement is expected. Partial payment of fee shall generally correspond to the evaluation periods. This makes effective the incentive which the award fee can create by inducing the contractor to improve poor performance or to continue good performance.
  - If a program or project is involved, the award-fee evaluation points should be tied to key program decision points.
  - If the contract is for a continuing effort (e.g., facility operation and maintenance), the award-fee evaluation points should be established periodically throughout the contract.

Award-Fee Plan

The Award-Fee Plan should comprehensively delineate the award fee determination process.

**Organizational Structure for Award Fee Determination.** The plan should identify and define the responsibilities of personnel involved in the award-fee process. The structure should be tailored to fit the contract situation. However, a three-tier structure is common.

- Fee Determining Official: The Fee Determining Official is responsible for:
  - Determining the award fee earned and payable for each evaluation period.
  - Changing the matters covered by the Award-Fee Plan, as necessary.

*(Topic continued on next page)*

Award-Fee Plan  
(continued)

- Performance Evaluation Board: The Board is responsible for:
  - Conducting ongoing evaluations of contractor performance and making recommendations on award fee to the Fee Determining Official.
  - Considering proposed changes in the Award-Fee Plan and recommending those that it determines are appropriate.
- Performance Monitor. A performance monitor will be assigned to each performance area which will be evaluated as part of the Award-Fee Plan.

DFARS Table 16-1

**Performance Evaluation Criteria.** The plan should identify areas that will be evaluated and how they will be evaluated. Appendix A presents an example for a contract for shipyard support from DFARS Table 16-1, Performance Evaluation Criteria.

DFARS Table 16-2

**Performance Evaluation Report Format.** The plan should include a format for Performance Monitor evaluation of contractor performance. Appendix B presents an example for shipyard support from DFARS Table 16-2, Contractor Performance Evaluation Report.

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## 6.4.2 Applying an Award Fee Pricing Arrangement

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### Introduction

To work effectively, the award-fee determination is a subjective process that requires effective communication between all the parties involved. The process begins with the Award-Fee Plan and the individual Performance Monitors and follows the general process described below. The overall flow should be modified as necessary to meet agency requirements and the needs of each contracting situation.

#### Stage 1. Performance Monitor orientation.

- Each Performance Monitor should be provided with the following documents:
  - A copy of the contract award fee provisions.
  - A copy of the Award Fee Plan.
  - A copy of specific instructions applicable to Performance Monitor assigned areas of evaluation cognizance.
- The Performance Evaluation Board Chairperson should conduct a discussion of the award fee determination process in general and the Performance Monitor's responsibilities in particular.
- The Performance Evaluation Board Chairperson should consider using periodic meetings with Performance Monitors to discuss ongoing contractor performance, general problems and solutions, and other contractual issues.

#### Stage 2. Performance Monitors assess contractor performance throughout the performance period.

#### Stage 3. At the end of each evaluation period, Performance Monitors submit Performance Management Reports to the Performance Evaluation Board. Each report should conform to the requirements of the Award-Fee Plan.

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Introduction  
(continued)

- Stage 4. The Performance Evaluation Board evaluates information obtained from the Performance Monitors and other available sources of information.
- The Board may request contractor input concerning the reports provided by the Performance Monitors.
  - The Board may discuss any questions about the Performance Monitor Reports with the Performance Monitors. For example, a contractor's shortcoming identified in a Performance Monitor Report may have been occasioned by Government influences and decisions to which the contractor responded at the expense of certain aspects of otherwise prescribed contract work. Board members may be in a better position than the Performance Monitor to evaluate the contractor's response.
- Stage 5. The Board meets and summarizes preliminary findings and positions.
- Stage 6. After it reaches its preliminary decision, the Board meets with contractor top-management to provide a summary of its preliminary findings and position regarding the performance levels achieved in the areas evaluated.
- Stage 7. After the conference with the contractor, the Board should consider contractor input and, if appropriate, modify its preliminary findings and recommendations accordingly.
- Stage 8. The Board Chairperson submits the Performance Evaluation Board Report to the Fee Determining Official. The Performance Evaluation Board Report should consider such matters as:
- Recommended range of dollars within which the award fee should fall.
  - Performance points assigned by the Board to each performance area and evaluation criterion, if applicable.
  - Bases of the performance points assigned.
  - Rationale for selecting the recommended award fee range.

*(Topic continued on next page)*

Introduction  
(continued)

- Stage 9. The Fee Determining Official considers the recommendation of the Performance Evaluation Board and makes a decision regarding award-fee. That decision may or may not be in accord with the Performance Evaluation Board recommendation. If it is not in accord with the Board recommendation, the Fee Determining Official must assure that reasons for any differences are fully documented.
- Stage 10. The Fee Determining Official sends the award-fee decision to the contractor.
-

## 6.5 STRUCTURING FIXED PRICE REDETERMINABLE PRICING ARRANGEMENTS

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### Introduction

FAR 16.205  
FAR 16.206

There are two types of fixed-price contracts that provide for price redetermination without an incentive arrangement, the fixed-price contract with prospective price redetermination (FPRP) and the fixed-ceiling-price contract with retroactive price redetermination (FPRR).

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### FPRP Description

FAR 16.205-1

A FPRP contract provides for a firm fixed-price for an initial period of contract deliveries or performance and prospective price redetermination at a stated time or times during contract performance for subsequent periods. It can probably be best described as a series of firm fixed-price contracts negotiated at stated times during performance.

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### FPRP Situations

FAR 16.205-2

You should consider an FPRP contract for acquisitions of quantity production or services for which you can negotiate a fair and reasonable firm fixed-price for the initial period, but not for subsequent periods of contract performance. In the DoD, FPRP contracts are frequently used for aircraft engine acquisition, where the nature of manufacture and resulting methods of accounting for costs lend themselves to periodic, plant-wide pricing on a prospective basis.

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### FPRP Elements

FAR 16.205-2

The FPRP contracts have two key elements:

- Firm fixed-price for an initial period of contract deliveries or performance.
- Stated time or times for price redetermination.

They generally also have a third element, a ceiling price. In negotiating a ceiling price you should consider the uncertainties involved in contract performance and their cost impact. This ceiling should provide for assumption of a reasonable proportion of the risk by the contractor and, once established, may be adjusted only by operation of contract clauses providing for equitable price adjustment or other revision of the contract price under stated circumstances.

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FPRP Negotiation  
and Administration

Consider the following points when you negotiate and administer an FPRP contract.

FAR 16.205-2

- The initial period for which the price is fixed at the time of contract negotiation should be the longest period for which it is possible to establish a fair and reasonable firm fixed-price.

FAR 16.205-3(c)

- The length of the prospective pricing periods will depend on the circumstances of each contract but generally should be at least 12 months.
- The prospective pricing period(s) should conform with the operation of the contractor's accounting system. They can be described in terms of units delivered, or as calendar periods, but generally are defined to end on the last day of a month. The first day of the succeeding period shall be the effective date for the price redetermination.

FAR 52.216-5

- At a specified time before the end of each redetermination period prior to the last, the contractor is required to submit:
  - Proposed prices for supplies or services to be delivered during the next succeeding period, and:
    - An estimate and breakdown of the costs of these supplies or services on an SF 1411 (or any other form on which the parties may agree),
    - Sufficient data to support the accuracy and reliability of this estimate, and
    - An explanation of the differences between this estimate and the original (or last preceding) estimate for the same supplies or services.
  - A statement of all costs incurred in performing the contract through the end of the first month (or second if necessary to achieve compatibility with the contractor's accounting system) before submission of the proposed prices. The data may be submitted on an SF 1411 (or any other form on which the parties may agree), but must include sufficient supporting data to disclose unit costs and cost trends for:
    - Supplies delivered and services performed, and
    - Inventories of work in process and undelivered contract supplies on hand (estimated to the extent necessary).

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FPRP Negotiation  
and Administration  
(continued)

- The contractor shall also submit (to the extent that it becomes available before negotiations on price redetermination are concluded):
  - Supplemental statements of costs incurred after proposal submission, and
  - Any other relevant data that you may reasonably require.
- If the contractor fails to submit the data required within the time periods specified, you may suspend contract payments until the data are furnished. If it is later determined that the Government overpaid the contractor, the contractor must repay the Government immediately. Unless repaid within 30 days after the end of the data submittal period, the amount of the excess shall bear interest — computed from the date the data were due to the date of repayment — at the rate established in accordance with the Interest clause of the contract.
- Upon receipt of the data required, negotiate to redetermine fair and reasonable prices for the supplies and services that may be delivered in the period following the effective date of the price redetermination.
- Each price redetermination shall be formalized in a bilateral contract modification.
- Pending execution of the bilateral contract modification, the contractor will submit invoices or vouchers in accordance with the billing prices established in the contract.
  - If at any time it appears that the then-current billing prices will be substantially different than the estimated prices, negotiate an appropriate change in the billing price.
  - Any billing rate adjustment must be reflected in a contract modification, but it shall not affect price redetermination.
  - After price redetermination, adjust the total amount paid or to be paid on all invoices or vouchers to the agreed-upon price. Assure that any required payments or refunds are made promptly.
- If you and the Contractor fail to agree on redetermined prices for any price redetermination period within 60 days (or within such other period as the parties agree) after the date on which the above data are to be submitted, the contractor officer must promptly issue a decision in accordance with the Disputes clause. If the contractor fails to appeal, this decision shall be treated as an executed contract modification, unless modified by agreement with the contractor.

*(Topic continued on next page)*



## FPRP Negotiation and Administration (continued)

- Quarterly — during periods for which prices have not been established, costs have been incurred, and adjusted billing prices exceed the existing contract price — the contractor must submit cumulative data showing:
  - Total contract price for all supplies and services delivered and accepted by the Government for which final prices have been established.
  - Total costs (estimated to the extent necessary) for supplies and services delivered and accepted by the Government for which prices have not been established.
  - Interim profit for supplies and services delivered and accepted by the Government for which prices have not been established.
  - The total amount of all invoices or vouchers for supplies or services delivered and accepted by the Government.

### FPRR Description

FAR 16.206-1

An FPRR contract provides for a fixed ceiling price and retroactive price redetermination within the ceiling price after contract completion.

### FPRR Situations

FAR 16.206-2

A FPRR contract is appropriate for research and development contracts estimated at \$100,000 or less when it is established at the outset that a fair and reasonable contract cannot be negotiated and that the amount involved and short performance period make the use of any other fixed-price contract impractical. Before use, obtain approval from the head of the contracting activity (or the higher level official designed by your agency).

### FPRR Elements

FAR 16.206-2

The FPRR contract has three key elements:

- Ceiling price negotiated for the contract at a level that reflects a reasonable sharing of risk by the contractor. The established ceiling price may be adjusted only if required by the operation of contract clauses providing for equitable price adjustment or other revision of the contract price under stated circumstances.
- Billing price that is fair and reasonable as circumstances permit. The billing price may be adjusted during contract performance if circumstances warrant. Any billing price adjustment shall be reflected in a contract modification and shall not be the final price redetermination.
- Agreement to promptly negotiate a fair and reasonable price after contract completion.

FAR 16.206-3(c)

FPRR Negotiation  
and Administration

FAR 52.216-6

Contract requirements are similar to those for an FPRP contract except that price is not redetermined until all items are delivered. However, two additional points should be considered as you negotiate and administer an FPRR contract.

- Within a specified number of days after delivery of supplies or services, the contractor is required to submit:
    - Proposed prices.
    - A statement on an SF 1411 (or any other form on which the parties agree) of all costs incurred during contract performance.
    - Any other relevant data that you may reasonably require.
  - When you negotiate the redetermined contract price, you should give weight to the management effectiveness and ingenuity exhibited by the contractor during performance. To encourage management effectiveness and ingenuity, you should emphasize its importance at the time of initial contract negotiation. This emphasis is important because this type of contract does not provide the contractor with a calculable incentive for effective cost control, aside from the cost ceiling.
-







## QUESTIONS AND PROBLEMS

1. You are negotiating a firm fixed-price contract. The Government technical representative advises you that he is concerned about the availability and pricing of one of the key raw materials. How can you consider this in your negotiations?
2. A \$400,000 fixed-price economic price adjustment contract contains a provision requiring an adjustment for 10 percent of the contract price based on changes in the index identified in the contract. The index at the time of contract award was 124.5. At time of delivery the index was 132.0. What is the final contract price?
3. Given the following data, develop an appropriate CPIF pricing arrangement:

	<u>Cost</u>	<u>Fee</u>
Target	\$100	\$10
Optimistic	\$80	\$12
Pessimistic	\$120	\$7

- a. What should be the maximum fee?
- b. What should be the minimum fee?
- c. What should be the under target share ratio?
- d. What should be the over target share ratio?
- e. What is the range of incentive effectiveness?

4. Given the following data for a CPIF pricing arrangement:

Target Cost	\$200
Target Fee	\$16
Share Ratios	
Under Target	80/20
Over Target	85/15
Maximum Fee	\$26
Minimum Fee	\$10

What is the range of incentive effectiveness?

5. Given the following data, develop an appropriate FPIF pricing arrangement:

	<u>Cost</u>	<u>Profit</u>
Target	\$1,000	\$150
Optimistic	\$800	\$200
Pessimistic	\$1,250	\$75

- a. What should be the under target share ratio?
- b. What should be the over target share ratio?
- c. What should be the ceiling price?
- d. What is the point of total assumption (PTA)?

6. Given the following data:

Target Cost	\$600	Under Target Share Ratio	75/25
Target Profit	\$60	Over Target Share Ratio	70/30
Target Price	\$660	Ceiling Price	\$751

- a. What is the PTA?
- b. What is the contractor's profit at the point of total assumption?

7. Using the pricing structure in Question 4, what would be the final contract price if final cost is:
- a. \$230
  - b. \$250
  - c. \$150
8. Using the pricing structure in Question 6, what would be the final price if final cost is:
- a. \$550
  - b. \$730
  - c. \$750
9. Under what conditions should you consider a CPAF contract?
10. Under what conditions should you consider a CPPC contract?



## GOODTIME CORPORATION

You are acquiring 200 state-of-the-art power units (PS-22). These units are key components of a new system that your organization is counting on to bring it into the 21st. century.

Development of the PS-22 has been a long and difficult process. It took several reengineering efforts, but the PS-22 passed qualification testing during the last month. While the design is now set, the unit has never been produced in a production environment.

Based on the above information, you solicited a proposal from Goodtime Corporation for the first 100 production units. Goodtime proposed a cost-plus-incentive-fee (CPIF) contract with the following features:

Target Cost	\$1,000,000
Target Fee	\$80,000
Maximum Fee	\$100,000
Minimum Fee	\$50,000
Share Ratios	
Under Target	90/10
Overtarget	85/15

Based on input from the cognizant auditor, technical personnel, and your own analysis, you believe that the contract should be a fixed-price incentive (FPIF) contract with the following characteristics:

Target Cost	\$1,000,000
Target Profit	\$100,000
Ceiling Price	\$1,200,000
Share Ratio	70/30

As you prepare for negotiations, you are examining the similarities and differences in your position and Goodtime's.

1.           What are the areas of agreement?

## Cases

2. What are the areas of disagreement?
  - a. Share ratios?
  - b. RIE for Goodtime's proposal?
  - c. PTA for your objective?
  - d. Other differences?
3. What appears to be the basic reason(s) for these differences?
4. Given the limited information available, which position appears more reasonable? Why?

## **CHAPTER 7**

# **CONDUCTING COST-REALISM ANALYSES**

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## LEARNING OBJECTIVES

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At the end of this  
Chapter

### **Classroom Learning Objective 7/1**

- Identify deficiencies in the realism of proposed prices or with respect to flexibly priced contracts the realism of proposed costs.

### **Classroom Learning Objective 7/2**

- Determine the best way of handling unrealistically low firm fixed-price BAFOs

### **Classroom Learning Objective 7/3**

- Adjust the BAFO total cost estimate

## CHAPTER OVERVIEW

### In This Chapter

This chapter covers:

DESCRIPTION	SEE PAGE
7.1 Evaluate Cost/Price Realism	7-4
7.2 Steps in Cost/Price Realism Analysis	7-7
7.3 Consideration of Uncompensated Overtime in Cost/Price Realism Analysis	7-15
7.4 Consider Cost Realism in Evaluating Offers for Flexibly-Priced Contracts	7-19
7.5 Consider Cost Realism in Evaluating Offers for Other Contracts	7-22
Questions and Problems	7-24
Cases	7-25

### References

In order to thoroughly understand the principles and procedures described in this chapter, you should refer to the following references:

FAR 9.104-1 14.406-3a 15.804-6(b)(2) 15.608(a)  
9.104-1(e) 15.803(d) 15.607 15.611  
9.105-2 15.804-3(a) 15.608 15.814

DFARS 214.805-70(a) 215.805-70(b)

Comp. B-224182 B-237531.3 B-238259  
Gen. B235208 B-237555 B-238402  
B-237054 B-238099.2

## 7.1 EVALUATE COST/PRICE REALISM

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### Introduction

Cost/price realism analysis is the examination of proposed cost and/or prices in conjunction with an analysis of contractor effort to assure that the price that the Government will pay is consistent with the required contract effort. You should have two objectives whenever you perform a cost/price realism analysis:

- Determine whether the proposed cost/price realistically reflects the effort required to complete the contract.
- Consider the risk in the award decision. If the offeror refuses to support the realism of estimates and refuses to make changes, you must consider the risk to the Government as you make the award decision.

FAR 15.803(d)

Always concentrate on the price that the Government will pay. With firm fixed-price contracts, emphasize contract price. With other contract types, emphasize the final contract price that the Government should realistically expect to pay.

FAR 14.406-3(g)

In many ways, cost/price realism analysis resembles investigation of a suspected mistake in bid. You review available information including information on cost/price estimates to assure that each offeror has considered all elements of the contract requirement. Instead of the mistake in bid procedures, negotiations are used to bring apparent inconsistencies to the offerors attention to permit correction

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### Causes of Unrealistic Cost Estimates

There are three major reasons that may cause costs to be understated:

- Lack of accurate offeror understanding of requirements
- Insufficient offeror proposal preparation coordination
- Conscious effort by the offeror to understate price because of competitive pressure

#### **Lack of Accurate Offeror Understanding of Requirements.**

Government requirements may not be clearly stated. If the offeror underestimates the magnitude or complexity of a proposed task, the estimated costs could be so far below the probable cost as to preclude successful completion of the contract!

*(Topic continued on next page)*

Causes of  
Unrealistic Cost  
Estimates  
(continued)

**Insufficient Offeror Proposal Preparation Coordination.** The cost proposal may not be consistent with the offeror's technical proposal. The inconsistency may occur as the result of inadequate coordination between the team preparing the technical proposal and the team preparing the cost proposal, or it may occur as an overt effort resulting from the competitive pressure.

**Conscious Effort by the Offeror to Understate Price.** Offerors may offer an unrealistically low price in order to win a contract.

FAR 3.501

- On fixed-price contracts, the contractor may hope to:
  - Increase the contract amount after award (e.g., through unnecessary or excessively priced change orders), or
  - Receive follow-on contracts at unrealistically high prices to recover losses on the buy-in contract.
- On cost-reimbursement contracts, the contractor may expect to recoup all or most of the costs related to any cost overrun that may occur.

Need for Cost  
Realism Analysis

FAR 9.103(c)

Cost/price realism analysis is necessary to protect the Government from the risks associated with unrealistically low prices. Remember that award of a contract to a supplier based on lowest evaluated price alone can be false economy if there is subsequent default, late deliveries, or other unsatisfactory performance resulting in additional contractual or administrative cost/prices. While it is important that Government purchases be made at the lowest evaluated price, this does not require an award to a supplier solely because that supplier submits the lowest offer. A prospective contractor must affirmatively demonstrate its responsibility, including, when necessary, the responsibility of its proposed subcontractors.

Cost/price realism analysis is particularly important when evaluating competitive proposals for cost/price-reimbursement and incentive contracts, since those types of contracts only require the contractor to make a good-faith effort to provide the deliverable for the estimated cost/price specified in the contract.

*(Topic continued on next page)*

Need for Cost  
Realism Analysis  
(continued)

DFARS 215.805-  
70(a)

FAR 15.814

Even when adequate price competition exists, you:

- Should perform a cost realism analysis when:
  - The lowest price proposal is far out of line with other proposed prices or the Government's independent cost estimate.
  - A cost reimbursement or incentive contract is anticipated.
  - The proposal appears to be materially unbalanced.
  - The solicitation contains new requirements that might not be fully understood by competing offerors.
  - You are concerned about quality (especially if one or more offerors have a track record of under pricing work and cutting corners during contract performance).
- May perform a cost realism analysis on other acquisitions.

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Analysis Standard

Protests to the Comptroller General often challenge cost realism analyses. Historically, the Comptroller General has generally sustained the contracting officer's judgment on cost realism—as long as that judgment is informed, accurate, thorough, reasonably based, and not arbitrary.

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## 7.2 STEPS IN COST/PRICE REALISM ANALYSIS

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Follow the 6-step procedure delineated in this Section, whenever you perform a cost/price realism analysis:

Step 1. Request necessary contractor data.

Step 2. Obtain other data necessary to support analysis.

Step 3. Obtain Government field pricing support when necessary.

Step 4. Assess cost/price realism.

Step 5. If proposed cost is not realistic, develop your own estimate of most probable cost.

Step 6. Use your cost realism analysis in contract decision making.

---

### Step 1. Request Necessary Contractor Data

FAR 15.607

FAR 15.804-6(a)

When you anticipate performing a cost realism analysis, request the necessary data in the solicitation. However, if necessary, you can request data after the period for receipt of proposals. For example, you can request such data to verify an apparent mistake in the proposal (e.g., a proposal with a price far out of line with other proposals).

**Partial or Limited Data.** Generally, you should request partial or limited data for cost realism analysis. Typically, this consists of an overall summary of each cost category (see FAR Table 15-2 for cost categories to consider) and more detailed data on the most critical elements or sub-elements. For example, you might request detailed data only on direct labor and travel costs. When requesting partial or limited data in the solicitation, identify the desired data as specifically as possible.

Normally, you should not request offerors to submit a completed Contract Pricing Proposal Cover Sheet (SF 1411) unless you intend to require contractor certification of data (see Cost or Pricing Data below). Also, state the offeror will not be required to certify the data (assuming adequate price competition).

*(Topic continued on next page)*

Step 1. Request  
Necessary  
Contractor Data  
(continued)

FAR 15.801 FAR 15.804-3(a)
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**Cost or Pricing Data.** Do not request cost or pricing data when you expect adequate price competition. Remember that FAR prohibits you from requiring submission or certification of cost or pricing data when you determine that prices are based on adequate price competition. If, after the closing date for submission of proposals, you discover that adequate price competition does not exist and that no other exemption applies, you can require submission of cost or pricing data and an SF 1411 to permit detailed cost analysis.

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Step 2. Obtain  
Other Data  
Necessary To  
Support Analysis

In addition to data from the offeror, you should obtain other relevant data to facilitate your analysis. Consider data from such sources as:

- An independent Government cost estimate.
- Technical evaluations of previous proposals from potential contractors.
- Recent audit reports on previous proposals from potential contractors.
- Procurement and program histories.
- Relevant market data (e.g., wage determinations, published cost estimating relationships, and the like).
- Cost estimating relationships, manning models, etc.
- Cost estimating system reviews.

Of these information sources, a detailed and well documented independent Government cost estimate can be the most valuable. It serves as the initial bench mark against which all proposals are measured.

During discussions, DO NOT use data from other offerors to question the realism of the proposal on the table. Also, DO NOT disclose the price or any other information on competing offers to any offeror. Remember that auctioning techniques and technical leveling are prohibited.

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Step 3 Obtain  
Government Field  
Pricing Support  
When Necessary

DCAM 9-311.4

Contract administration personnel and auditors can be invaluable support in proposal analysis.

**Audit Support.** You may request audit support from audit organizations (e.g., the Defense Contract Audit Agency) in determining whether proposed costs are reasonable, credible, and compatible with the proposal scope and effort. Even though auditors cannot examine the offeror's books without a contractor completed SF 1411, they can provide such services as rate checks, desk audits, and critiques of limited or partial data from the offerors (including suggestions on additional information to request or questions to ask about the data). You may also consider inviting the auditors to discussions with offeror representatives.

**Contract Administration Team Support.** Request assistance from the contract administration team in cost realism analysis whenever you believe that it will provide information necessary to making an informed judgment on cost realism. Assistance from contract administration personnel can be invaluable, because they are generally the people most familiar with contractor operations. Defense Contract Management Command (DCMC) will honor customer requests for assistance with cost realism analysis. Contractor completion of an SF 1411 is not essential to obtain DCMC support.

Step 4. Assess  
Cost/Price Realism

Ask the following questions to determine whether proposed costs/prices are realistic for the work to be performed.

- **Do the cost data submitted satisfy the solicitation requirements?** Data must be adequate for proposal analysis. Inadequate data could indicate a lack of understanding of contract requirements or an attempt to hide weaknesses in proposal development.
- **Do the proposed costs/prices reflect an accurate understanding of contract requirements?** With the assistance of technical personnel, determine if the proposal is consistent with the technical and other solicitation requirements. Inconsistencies need to be identified and clarified. A lack of understanding of the technical requirements can lead to severe over or under pricing of the contract. Further, a lack of understanding can jeopardize successful contract completion.

*(Topic continued on next page)*

Step 4. Assess  
Cost/Price Realism  
(continued)

- **Are the proposed costs/prices consistent with the various elements of the technical proposal?** The cost proposal should be a dollars and cents representation of the technical proposal and must be consistent with the technical proposal. Inconsistencies can involve direct labor, direct material, or even indirect costs:

*Example 1.* The offeror has submitted a proposal on a contract that is part of a complex research program to develop and test a state-of-the-art analysis system. In the technical proposal, the offeror has proposed to use 10 doctoral level engineers in completing the effort over a 12-month period. Instead of the labor rate for doctoral engineers, the offeror has proposed the labor rate for engineering assistants. It would be impossible to hire the proposed types of engineers at that labor rate.

*Example 2.* The offeror has proposed to integrate a top-of-the-line material handling unit into a new system being designed for the Government. However, the price proposed is 50 percent less than the lowest known sales price for the item.

*Example 3.* The offeror has proposed to conduct a stringent test program in a special test facility located in the contractor's plant. The proposal does not include the overhead cost normally applied to test units using the test facility. Furthermore, the engineering overhead rate proposed is an off-site rate rather than the higher on-site rate.

- **How does the offeror's proposal compare with the independent Government estimate?** A detailed and well documented independent Government cost estimate serves as the initial benchmark against which all proposals are measured. Analyze any differences between the proposal and the Government estimate. If you determine that the estimate is correct, the offeror must demonstrate why its proposal is appropriate for the contract. If you determine that the estimate is incorrect (e.g., a major element was omitted), then you should take action to correct the estimate.
- **Do the cost data indicate areas of inadequate or excessive contract effort?** You should be concerned about both inadequate and excessive proposed effort. Either could indicate a lack of understanding of Government requirements.

*(Topic continued on next page)*

Step 4. Assess  
Cost/Price Realism  
(continued)

- **How does the offeror's record of cost performance on previous contracts compare with the prices proposed/negotiated?** Past performance can be a strong indicator of future performance. However, if records indicate historically poor cost performance, provide the offeror an opportunity to demonstrate that past problems were beyond the firm's control or that improvements have been made in the firm's cost estimating system.
  - **Is the contractor likely to satisfactorily complete the contract on time at the proposed price?** Even if the proposal is internally consistent and reflects an accurate understanding of the work, the offeror may still have underestimated the cost of completing the contract. Assess the probability that the offer can complete the contract on time at the proposed price. Underestimates will result in a contract that is underfunded. Underfunding increases the following contract related risks to the Government.
    - If the contract is fixed-price:
      - Obtaining the additional funds will be the responsibility of the contractor. If funds are not available, the contractor could default or even go bankrupt.
      - Even if funds are available, the contractor will likely attempt to save money by cutting costs in all phases of contract performance from contract administration to production operations
    - If the contract is cost reimbursement:
      - Additional Government funds may be required to complete the contract.
      - If additional funds are not available, work on the contract will stop. Even if additional funds are available, contract delays while awaiting funds are possible.
      - A contract that requires additional funds to complete the basic work is by definition a cost overrun. Government procurement has been often criticized for failure to protect the taxpayer's interests through poor cost management.
-

Step 5. Estimate  
Most Probable  
Cost

If the proposed cost is NOT realistic, use relevant estimating tools and techniques to develop a realistic estimate of most probable cost -- the total allowable cost that the contractor would most likely incur to perform the work if awarded the contract.

As you collect the information required to evaluate the realism of the offeror's cost/price estimate, you are also collecting the information required to develop your own estimate of the most probable contract cost. In developing your estimate, adopt the portion of the offeror's estimate that appears realistic and modify the portion of the estimate that you believe is unrealistic. Use relevant estimating tools and techniques and keep the answers to the questions from Step 4 clearly in mind as you develop your estimate.

As you complete your estimate, assure that you clearly document your rationale for any adjustment. The examples below, clearly demonstrate the rationale used in analysis.

**Example 1.** The solicitation clearly stated that the burden of proof for cost estimate credibility rests with the offeror. Further, the solicitation stated that the Government audit recommended rates for labor and indirect costs would be used in developing an estimate of most probable cost for the contract, unless convincing evidence supporting the use of other rates was provided by the contractor. The evaluation proceeded to request for best and final offers (BAFOs) from all offerors in the competitive range. When the BAFOs were received, Jones Mills significantly reduced its proposal by reducing the indirect cost rates proposed. Jones Mills supported this change with cost data showing substantial increases in projected business during the period of the contract. However, the revised indirect cost rates conflicted with Government audit estimates, and the revised cost data were not consistent with budgeted cost data provided by the offeror. In developing the estimate of most probable cost, the contracting officer used the Government audit recommended rates, rather than the rates proposed.

*(Topic continued on next page)*

Step 5. Estimate  
Most Probable  
Cost  
(continued)

**Example 2.** During the technical evaluation of the Clearwater Corporation's proposal, the technical team determined that the offeror had proposed an insufficient number of labor hours for one element of the contract. The team issued a Deficiency Report (DR) advising Clearwater of the proposal deficiency. In the cost evaluation, the cost team determined that the proposed cost for that same element of contract effort was low compared to the independent Government estimate. During discussions, Clearwater was advised of these concerns. In the offeror's BAFO, the estimated labor-hours and costs were increased, but still fell below the minimally acceptable effort established in the Government estimate. Though the offeror was technically rated down in this one area, overall the offeror was considered to be in the competitive range. In developing the estimate of most probable cost, the contracting officer used the Government's estimate of labor hours rather than the hours proposed by the offeror. The offeror's proposed rates and factors (e.g., direct labor rates, fringe benefits, overhead, G&A expenses, and profit) were used without adjustment.

Comp Gen B-251698.3 & B-251698.4
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DO NOT use arbitrary cost estimates. For example, the Comptroller General ruled in 1993 that a cost realism analysis which mechanically adjusts proposed labor hours and material costs DOES NOT satisfy the requirement for an independent analysis of each offeror's proposed costs. In that case, the Government essentially split the difference between the Government estimates and contractor estimates that were a given percent more or given percent less than the Government estimates.

The Comptroller General further ruled that when the Government estimate of labor hours and material costs required to perform a contract differs substantially from the contractor's proposed estimates and that estimate is not revealed to offerors, the contracting agency should conduct discussions with the offerors concerning the discrepancy.

Step 6. Use Your  
Analysis in  
Contract Decision  
Making

FAR 15.803(d)
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During discussions, advise the offeror of costs that appear to be unrealistically high or low.

In a **single-source negotiation**, never agree to a price that is unreasonably high or unreasonably low. If the offeror demands a price that is unreasonable and you have taken all authorized actions (including the feasibility of developing an alternative source) without success, refer the contract action to higher authority. Assure that the disposition of the action by higher authority is documented.

*(Topic continued on next page)*

Step 6. Use Your  
Analysis in  
Contract Decision  
Making  
(continued)

FAR 15.608(b)  
Comp Gen  
B-237531.3 and  
B-235208

In a **competitive negotiation**, you can normally rely on the offeror's competitive instincts and business acumen to arrive at a reasonable price. However, costs that you have identified as unrealistic during negotiations should be changed or supported in the Best And Final Offer (BAFO). Review the BAFO for cost realism.

- If the BAFO in line for award is fair and reasonable, you can award to the firm with the offer that is most advantageous to the Government under the terms of the award criteria in the solicitation.
  - If all BAFO prices are unreasonably high, reject them all whenever possible. The Comptroller General has held that the Government may cancel a negotiated procurement and resolicit based on the potential for increased competition or cost savings.
  - If one or more prices are unreasonably low, you will need to take action appropriate to the contract type involved. Section 7.4 identifies appropriate actions for cost-reimbursement and other flexibly-priced contracts. Section 7.5 identifies appropriate actions for other contracts.
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### **7.3 CONSIDERATION OF UNCOMPENSATED OVERTIME IN COST/PRICE REALISM ANALYSIS**

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#### **Introduction**

Offeror use of uncompensated overtime can complicate any cost realism analysis—particularly when the contract requirement is defined in hours of labor required. Accordingly, the issues surrounding the analysis of uncompensated overtime are given special attention here.

The term “uncompensated overtime” refers to the hours worked in excess of an average of 40 hours per week by employees who are exempt from the requirements of the Fair Labor Standards Act (FLSA), without additional compensation. Compensated personal absences — such as holidays, vacations, and sick leave — are included in the normal work-week for purposes of computing uncompensated overtime.

Many service companies strongly encourage or even require FLSA-exempt employees to work more than 40 hours per week. Direct and indirect cost concerns result from the different accounting treatment of the hours in excess of 40 by different companies.

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Forty-Hour  
Accounting

Some contractors require their FLSA-exempt employees to record a maximum of eight hours per day and 40 hours per week. These companies do not all treat the hours worked in excess of 40 in the same way. Some distribute labor costs only to cost objectives worked on during the first eight hours of the work-day. Some permit employees to select the cost objectives to be charged for their excess hours. Either method provides the opportunity to game the allocation of labor costs and indirect costs allocated using labor hours or labor dollars.

For example, suppose an employee works ten hours a day five days a week. One day the employee spends five hours working on a firm fixed-price contract and five hours working on a cost-reimbursement contract or an indirect cost activity such as bid preparation. If the employee can only charge eight hours, where should they be charged? To maximize contractor income, the logical choice would be to charge five hours to the cost-reimbursement contract. The contract cost would then include both the wages and any indirect cost based on direct labor hours or dollars. Three hours could be charged to the firm fixed-price contract or bid preparation. The remaining two hours would be free to the contractor. As a result, the firm fixed-price contract or bid preparation effort would be charged labor and related indirect cost for only three of the five hours worked.

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Full-Time  
Accounting

Other contractors require their employees to charge for every hour worked. The Defense Contract Audit Agency (DCAA) and others contend that total time accounting is required for compliance with FAR 31.201-4, Determining Allocability; CAS 401, Consistency in Estimating, Accumulating, and Reporting Costs; and CAS 418, Allocation of Direct and Indirect Costs. The DCAA Audit Manual recognizes three methods of accounting for uncompensated overtime as complying with CAS 418:

- Calculate a separate average labor rate for each pay period, based on the salary paid divided by the total hours worked, and allocate costs to cost objectives based on that rate.
  - Assign the total hours on a pro rata basis to all cost objectives worked on during the pay period.
  - Allocate costs using an estimated annual rate, and credit any variance to indirect cost.
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Full-Time  
Accounting  
(continued)

However, there are still problems when employees do not work the same number of hours each week. If the salary and overhead costs are always the same, how should the contractor calculate the labor and indirect cost rates for forward pricing? Most companies that use this method use average historical experience for forward pricing rate development.

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Proposal  
Evaluation

The accounting differences can create substantial problems in the evaluation of offeror projections of the cost and quality of contract performance. For example, given the same annual salary and overhead costs and an indirect cost rate based on labor hours or labor cost, a firm basing its estimate on 50-hours week could offer a lower contract cost than a firm basing its estimate on a 40-hour week. Would the quality of product be the same? It is difficult or impossible to tell. Is a person working a 50-hour week as productive as a person working a 40-hour week? Are the employees of the contractor with the estimate based on the 40-hour week actually working 50 hours a week?

DFARS 252.237-  
7019

To improve competitive proposal evaluation, solicitations for services should include a requirement that:

- For any hours proposed using an uncompensated overtime rate, the offeror identify the hours proposed in excess of an average of 40 hour per week.
- Offeror accounting practices used to estimate uncompensated overtime must be consistent with the firm's cost accounting practices used to accumulate and report uncompensated overtime hours.
- The offeror include a copy of the firm's uncompensated overtime policy with its proposal.

DFARS 215.608

As you evaluate proposals use the information provided to consider the risks to contract performance associated with uncompensated overtime. In particular, consider risks associated with:

- Unrealistically low rates, direct or indirect, that may result in quality or performance shortfalls.
  - Unbalanced distribution of costs, direct or indirect, associated with uncompensated overtime accounting practices.
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Solicitation  
Requirements for  
Contracts over  
\$500,000  
Involving  
Professional  
Services

FAR 22.1102 and 22.1103 FAR 52.222-46
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Include the FAR provision, Evaluation of Compensation for Professional Employees, in any solicitation for a negotiated service contract when the contract amount is expected to exceed \$500,000 and the service to be provided will require meaningful numbers of professional employees. A professional employee is any employee who is a member of a profession having a recognized status based upon acquiring professional knowledge through prolonged study. Examples include accountancy, actuarial computation, architecture, dentistry, engineering, law, medicine, nursing, pharmacy, the sciences (e.g., biology, chemistry, and physics), and teaching. To be a professional employee, a person must be a professional and must be involved essentially in the discharging of professional duties.

This provision requires that offerors submit for evaluation a total compensation plan setting forth proposed salaries and fringe benefits for professional employees working on the contract. Supporting information will include data — such as recognized national and regional compensation studies of professional, public and private organizations — that were used in establishing the total compensation structure. Plans indicating unrealistically low professional employee compensation may be assessed adversely as one of the factors considered in making contract award.

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## 7.4 CONSIDER COST REALISM IN EVALUATING OFFERS FOR FLEXIBLY-PRICED CONTRACTS

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### Introduction

For the purposes of this text/reference, flexibly-priced contracts include fixed-price incentive contracts, fixed-price contracts with price redetermination, and all varieties of cost-reimbursement contracts. Price and price-related factors generally are less important than other factors in awarding flexibly priced contracts. However, when price is a significant evaluation factor, you need a realistic cost estimate for every competing Best and Final Offer (BAFO). Without realistic estimates, you cannot identify the BAFO that is most advantageous to the Government.

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### Consideration of Most Probable Cost Estimate

The most common method used to consider cost realism in the evaluation of BAFOs for a flexibly priced contract is the use of the estimate of most probable cost in price evaluations. You have considerable discretion in developing an estimate or most probable cost, as long as the estimate is:

- Reasonable,
- Consistent with the facts,
- Mathematically accurate, and
- Well documented.

However, you must independently develop an estimate of most probable cost for each BAFO, based on each contractor's particular circumstances, approach, personnel, and other known unique factors. For example, DO NOT increase the proposed labor rates in a BAFO to those in the Government estimate if the contractor's collective bargaining agreement contains lower rates.

Comp. Gen. B-250486
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The discretion of the contracting office in developing an estimate of most probable cost is demonstrated in a 1993 case where the Comptroller General ruled that:

When a cost-reimbursement contract is to be awarded, the offerors' estimated costs of contract performance should not be considered as controlling since the estimates may not provide valid indications of final actual costs, which, within certain limits, the agency is required to pay. ... the agency's evaluation of estimated costs thus should be aimed at determining the extent to which the offeror's estimates represent what the contract should cost, assuming reasonable economy and efficiency. [Hence] ... the agency made significant adjustments in the protester's proposed costs, both for the TWT proposal and the solid-state proposal, adjusting the former upward by nearly \$284 million ... and the latter by \$236 million. ... Based on the hearing testimony and extensive agency documentation, we think that the cost adjustments were reasonable.

*(Topic continued on next page)*

Consideration of  
Most Probable  
Cost Estimate  
(continued)

Comp. Gen.  
B-238402

Another case, a 1990 Comptroller General decision, also demonstrates the importance of developing reasonable estimates of most probable cost consistent with the facts for each situation. In that case, the Comptroller General supported the cost realism analysis performed by the Agency for International Development (AID):

Five proposals were received in response to the solicitation. Following technical and cost discussions, three offerors were retained in a revised competitive range, and were requested to submit best and final offers (BAFOs). ARD's BAFO, proposing a cost of \$4,060,851, received the highest technical score, 87.0 points, while LBI's BAFO, proposing a cost of \$3,681,035, received a technical score of 78.8 points. AID determined that LBI, at agency direction, had failed to include in its proposed cost the cost of certain paid leave, thus resulting in a level of effort that appeared to be somewhat reduced from the level of effort set forth in the RFP. The agency concluded, however, that LBI in fact was proposing the level of effort in the solicitation, but charging paid leave to overhead rather than accounting for it as a direct charge; nevertheless, so as to avoid any question as to whether proposals were being evaluated on an equal basis, the agency adjusted LBI's proposed cost upward by \$144,277 to an evaluated cost of \$3,825,312. LBI's evaluated, final proposed cost, however, remained \$235,539 lower than ARD's.

The importance of clear and complete documentation of the estimate of most probable cost is demonstrated in the Comptroller General response to another element of the ARD protest:

We have reviewed AID's evaluation of proposed costs and find that, contrary to ARD's assertions, the agency performed a cost realism analysis of all proposals, and that the analysis included an assessment of specific elements of the proposed costs. For example, in evaluating initial proposals, AID noted that LBI's insurance costs were excessive; as a result, after discussions, LBI reduced those costs in its final proposal. With respect to ARD's proposal, the agency noted that the initially proposed rate for general and administrative expenses appeared excessive; questioned ARD's proposed material handling charge and insurance costs; found that its proposed fixed fee was excessive; and advised ARD that salaries for several proposed consultants were extremely high. Further, the record shows that AID's cost realism analysis reasonably determined that LBI's proposed cost was not, as ARD asserts, unrealistically low. In that regard, the agency made detailed comparisons of the proposed cost elements with the government's own estimates for those elements. Although the agency made an upward adjustment in LBI's overall proposed cost to account for omitted leave and adjustments to specific cost items such as salary, fringe benefits, overhead, and living quarters, we note that LBI's overall, final proposed salary costs exceeded both the government estimate and ARD's proposed salary costs. LBI's proposed cost in another major area, overhead, also exceeded ARD's. Accordingly, we find no basis for ARD's assertion that LBI's proposed costs are unrealistically low.

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**Consideration of Risk**

While use of an estimate of most probable cost is the most common method for consideration of cost realism in a flexibly priced contract, cost realism can also be considered in the evaluation of contract risk. A 1990 Comptroller General decision demonstrates the consideration of cost risk from contractor use of low skilled labor:

Comp. Gen. B-237054
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The Army received eight proposals and five were included in the competitive range with EER's proposal having the lowest rating of the five. Discussions were held with the technically acceptable offerors, and best and final offers (BAFOs) were received. The record shows that a cost and quantitative/qualitative analysis, and a best value analysis were performed on the BAFOs. SFA received a final technical score of 96 compared to EER's score of 74. EER's final evaluated cost proposal for the base year and 2 option years was the lowest at \$7,175,830, as compared with SFA's proposal of \$8,364,401. SFA was selected for award on September 13, 1989.

The Army also concluded that even though EER proposed the lowest cost, it may not provide the lowest cost to the government due to its inefficiency and less qualified personnel. **In this regard, we have consistently found that where a cost reimbursement contract is to be awarded, the offerors' proposed estimated costs of performance should not be considered as controlling, since they may not provide valid indications of the actual costs which the government is, within certain limits, required to pay.** Bendix Field Eng'g Corp., B-230076, May 4, 1988, 88-1 CPD P 437.

The record confirms that the proposal evaluation board, from the submission of initial proposals, was concerned about the low cost of EER's offer because it contained "entry level" labor rates, which made the agency question whether EER could deliver quality personnel and work as demanded by the contract. This concern about the possible high cost and lack of efficiency of EER was reinforced by EER's response to the sample task which included 36 percent more labor than the government estimate. During discussions, these concerns were expressly brought to EER's attention. However, EER only made minor adjustments in the hours in the sample task proposal.

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## 7.5 CONSIDER COST REALISM IN EVALUATING OFFERS FOR OTHER CONTRACTS

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### Introduction

Comp. Gen.  
B-238259

When negotiating firm fixed-price (FFP) and fixed-price with economic price adjustment (FPEPA) contracts, you **MUST NOT** adjust the price prior to making cost/technical tradeoffs. The Comptroller General has ruled that adjusting a proposed fixed-price, “followed by evaluation of the adjusted price for reasonableness, is inappropriate since a fixed-price contract is not subject to adjustment based on the contractor's cost experience during performance, and thus places full responsibility for costs above the fixed-price directly upon the successful offeror.” Instead, for FFP and FPEPA contracts, use cost realism analysis in evaluating offers.

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### Consideration As an Explicit Evaluation Factor

FAR 15.605(b)  
Comp. Gen.  
B-238259

Cost or price realism often takes the form of an explicit evaluation factor. This is encouraged by the FAR, which identifies cost realism as one of the relevant factors to consider. In a recent case, the Comptroller General approved the use of cost realism analysis to assess “risk involved in an offeror's proposal—i.e., to judge the degree of risk by calculating the extent to which the proposed price falls short of the amount the agency believes is required to perform as proposed.” The contracting officer concluded that the lowest priced BAFO was predicated on unrealistically low rates of compensation for its employees. This raised doubts about its ability to retain qualified personnel. Therefore, the contracting officer properly selected a higher priced offer for award.

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### Consideration in Applying Other Factors

Comp. Gen.  
B-237555

You may also consider cost realism in applying other technical and business management factors. In a 1990 case, for example:

Award was to be made on the basis of the offer providing the best overall value to the government based on four evaluation factors listed in the solicitation in descending order of importance—manufacturing/production, cost/price, product reliability, and management. ... FIDS received a marginal rating in all three non-price evaluation areas primarily because of an inadequately substantiated drop in its BAFO price, a history of poor past performance and alleged quality control deficiencies. The evaluators specifically found that a substantial performance risk was associated with FIDS' proposal because FIDS' final proposed price of \$56,057,000, which was the lowest received, represented a significant, insufficiently explained decrease of \$19.6 million (26 percent) from its initial price.

... The risk of poor performance when a contractor is forced to perform at little or no profit is, in general, a legitimate concern in the evaluation of proposals. ... An agency may properly downgrade a BAFO as being technically deficient when it does not contain an adequate explanation of price reductions from a previously acceptable initial proposal and may, where consistent with the terms of the RFP, award to a higher-priced technically superior offeror.

... Here, the record indicates that [the protester's] ... price reduction was not adequately explained as required by the RFP. [The protester's] ... BAFO merely contained general statements supporting the reduction without any detailed or persuasive explanation for it. [The protester] ... failed to explain how the price reduction affected its technical proposal generally and the labor hours proposed specifically. ... We therefore conclude that the agency reasonably considered [the protester's] ... proposal marginal because it concluded that the firm's low fixed price represented a significant performance risk."

### Consideration of Possible Mistake

FAR 15.608

When award is to be made to the lowest price, technically acceptable proposal, cost realism may be an issue in determining whether the offer is technically acceptable or whether the proposed price is a mistake.

Remember that a purpose of cost or price analysis is not only to determine whether the price is reasonable but also to "determine the offeror's understanding of the work and ability to perform the contract."

Comp. Gen.  
B-238099.2

On the other hand, do not reject an offer simply because the offer in your judgment is below-cost. "The submission of a below cost or low-profit offer is not illegal and provides no basis for challenging the award of a firm, fixed-priced contract to an otherwise responsible contractor". Rather, the question is whether the offeror is likely to satisfy the Government requirement at the below-cost price. Remember that the offeror has the burden of affirming its capability to perform at that price.

## QUESTIONS AND PROBLEMS

1. Identify the three major reasons that costs may be understated.
2. Identify five situations where you should perform a cost realism analysis.
3. Should you always request full cost or pricing data to support cost realism analysis?
4. Identify the six steps of cost realism analysis.
5. When negotiating a firm fixed-price contract, should you adjust the proposed price as part of cost realism analysis?
6. Is it illegal for a contractor to propose a price below estimated contract cost?
7. What four criteria must you consider when you adjust the price of a flexibly priced contract to consider the most probable cost?
8. What is uncompensated overtime?
9. What direct and indirect rates are typically affected by uncompensated overtime?
10. Identify the two basic accounting treatments for FLSE-exempt employees working more than 40 hours per week.

## PALE MAIL

Pale Laboratories issued a request for proposal (RFP) for “furnishing the necessary management, personnel, facilities, and equipment, to provide mail distribution and support services” for the laboratory complex. The RFP solicited offers on a cost-plus-incentive-fee contract, and offerors were informed that technical competence and cost realism would be the primary factors considered in selecting the contractor.

Three proposals were received and found to be within the competitive range. Oral discussions were held with all offerors during which pertinent technical and cost questions were reviewed. Offerors were requested to furnish written responses to the questions discussed. The total cost from each “Best and Final Offer” for the basic and option contract years is shown below:

<b>Offeror</b>	<b>Proposed Cost</b>
United Mail	\$865,000
Northern, Inc.	\$841,000
Moka Services	\$891,000

The proposed costs do not appear to be realistic in all cases.

The Moka Services proposal contains \$1,000 in contingencies for material that the RFP clearly states will be furnished by the Government.

The Northern, Inc. proposal also appears to be unrealistic:

- Most wage classes required in the contract are covered by Service Contract Act wage determinations. In four classes that are not covered (10 of 37 employees on the contract), Northern proposed wages lower than those being paid by the incumbent contractor, United Mail. Given the labor shortage in the area, it seems unreasonable to expect employees to continue to work on the same job for lower wages. Northern’s technical proposal stated that 80 percent of United’s employees would continue to work on the contract. Wages appear to be understated by \$6,300.
- Northern’s proposal included NO premium for shift work because they contend none is required under the contract. Government mail specialists, based on years of experience, feel that shift work will be required. The necessary premium is estimated at \$1,000.
- No overtime premium was proposed for the senior clerk as required by the RFP. Required overtime premium is estimated at \$500.
- Northern proposed the same wage rates for the option years as for the basic contract. Projected wage increases for employees not covered by the Service Contract Act are estimated to be \$29,700.

The United Mail proposal appears to be realistic in relation to its technical proposal.

## Cases

1. How should you consider cost realism in evaluation of these proposals?
2. Assuming that the technical proposals are relatively equal, which firm would you select for award? Why?
3. What is the one major criticism that you must be prepared to answer?

## DEMONSTRATION CONCEPTS

The Demonstration Concepts Office (DCO) issued a request for proposal for construction of a demonstration home using state-of-the-art construction materials and methods developed by the DCO.

You received four proposals for the fixed-price contract:

Kentucky Homes	\$205,500
Ohio Cabins	\$210,000
Indiana Construction	\$225,100
American Concepts	\$1,000

The Government project estimate is \$220,000.

All the proposals are technically excellent. The obvious low offeror is American Concepts. Unfortunately, the proposed price appears totally unrealistic.

1. Based only on the information presented above, what could lead American Concepts to submit a proposal of \$1,000.
2. What steps would take in your proposal cost realism analysis?
3. Under what circumstances, would you consider an award to American Concepts?

## SMYTHE ENTERPRISES

Your organization issued a request for proposals (RFP) for a cost-plus-fixed-fee level of effort contract to provide clerical support services. The RFP advised offerors that the contract will be awarded to the offeror which submitted a technically acceptable offer that provides the lowest evaluated cost for the total of the base year and four 1-year options.

To support your evaluation of contractor cost realism, the RFP required offerors to submit cost or pricing data including: direct labor rates, other direct rates, indirect costs, and escalation rates for proposed labor costs. The evaluation criteria specifically advised offerors that the cost realism analysis of direct labor rates would consider the anticipated changes in the direct labor rate over the four option years.

Seven proposals, including proposals from Smythe Enterprises and Ajax Associates, were determined to be technically acceptable and were evaluated for cost realism. You found that several offerors did not provide for escalation of labor costs during the option years as required by the RFP. The low offeror, Smythe Enterprises, is one of the firms that did not provide for inflation. The second low offeror, Ajax Associates, provided approximately four percent escalation each year.

1. If you were going to adjust the Smythe proposal to consider increased labor costs, how would you determine the amount of escalation that you should use?
  
2. Assume that you developed an estimate of most probable cost by increasing the base-year wage rate by 3.5 percent per year and applying the contractor-proposed indirect rates to the increased bases. The results would be:

	Smythe Enterprises Without Escalation	Smythe Enterprises With Escalation	Ajax Associates
Base Year	\$500,000	\$500,000	\$480,000
Option 1	\$500,000	\$517,500	\$499,200
Option 2	\$500,000	\$535,613	\$519,168
Option 3	\$500,000	\$554,359	\$539,935
Option 4	<u>\$500,000</u>	<u>\$573,762</u>	<u>\$561,532</u>
Total	\$2,500,000	\$2,681,234	\$2,599,835

Smythe objects for two reasons:

- a. Smythe claims that given today's labor market, wage increases are unnecessary. Your answer?
  - b. Smythe further claims that the escalation of wages rates was unreasonably compounded by the unnecessary escalation of indirect costs. Labor overhead rates are based on direct labor costs. The G&A Expense is based on total cost input. Smythe claims that, if direct labor rates did increase, the rate bases would increase and the rates would decline. Your answer?
3. What if anything could you have done to avoid these problems?
  4. To which firm would you award the contract, if the Ajax and Smythe technical proposals are comparable?

# **CHAPTER 8**

## **PERFORMING FINANCIAL ANALYSES**

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## LEARNING OBJECTIVES

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At the end of this  
Chapter

At the end of this chapter, you will be able to:

**Classroom Learning Objective 8/1**

Describe each financial indicator identified in the section.

**Classroom Learning Objective 8/2**

Apply financial indicators applicable to decisions related to offeror responsibility.

**Classroom Learning Objective 8/3**

Apply financial indicators applicable to decisions related to the need for Government financing.

**Classroom Learning Objective 8/4**

Identify financial indicators applicable to decisions related to the need for performance bonds.

**Classroom Learning Objective 8/5**

Identify financial indicators applicable to decisions related to the need to suspend or reduce progress payments or change the liquidation rate.

**Classroom Learning Objective 8/6**

Identify financial indicators applicable to decisions related to the need for a subordination agreement.

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## CHAPTER OVERVIEW

In This Chapter

This chapter covers:

DESCRIPTION	SEE PAGE
8.1 Sources of Financial Information	8–8
8.2 Describing Key Financial Indicators	8–12
8.3 Applying Financial Indicators to Responsibility Decisions	8–19
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References

FAR	9.104-1	32.304-1	32.503-6
	9.105-1	32.304-2	32.503-7
	9.105-3	32.304-3	32.503-8
	28.102-1	32.403	32.503-9
	28.102-2	32.404	32.595-4
	28.103-1	32.408	53.232-16
	28.103-2	32.409	
	32.104	32.410	
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	32.106	32.502-1	
	32.3	32.502-2	

## Chapter Introduction

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### Introduction

FAR 9.104-1

In Government contracting, financial analysis is the analysis of the:

- Financial capability of potential contractors. To be determined responsible, a prospective contractor must have adequate financial resources or the ability to obtain them.
- Effect that Government financing decisions will have on contractor financial management. Decisions on Government financing and the rate for progress payment liquidation can have a substantial effect on a contractor's financial management.
- Need for Government protection from performance problems that may result from contractor financial problems. Related decisions include the need for performance bonds or subordination agreements to protect the interests of the Government.

Whether you must perform the analysis yourself or interpret the analysis of specialists (e.g., auditors, financial analysts, price/cost analysis), you must understand the basic concepts of financial analysis. Financial analysis typically provides information, not clear-cut answers. You must be prepared to make a decision from the available information. To do your job effectively, you must make the right decision and you must be able to defend that decision, if challenged by the contractor or others involved in the acquisition process.

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### Assets, Liabilities, and Owner's Equity

To effectively perform a financial analysis, you must understand the relationship between assets, liabilities, and owner's equity. Assets are the economic resources of the firm which are capable of giving service benefits to its future operations and which can be measured objectively in monetary terms. The sources of these assets are the liabilities of the firm and owner's equity.

$$\text{Assets} = \text{Liabilities} + \text{Owner's Equity}$$

As a rule, liabilities require the payment of a specific sum of money to a particular party at a specified time in the future. However, in some cases, the amount of money to be paid may be indefinite; the debt may be settled by some means other than the payment of money; the creditor may not be known; or the due date may be uncertain.

*(Topic continued on next page)*

Assets, Liabilities,  
and Owner's  
Equity  
(continued)

**For example:** Two people each invest \$10,000 in a business partnership. At that point in time, the firm's assets are \$20,000; liabilities are zero; and owner's equity is \$20,000. The next day they borrow \$5,000 and purchase new equipment for \$25,000. Now, the firm's assets are \$25,000; liabilities are \$5,000; and owner's equity is \$20,000. Note that the firm's assets always equal the firm's liabilities plus owner's equity.

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Current and Long-  
Term Assets

Assets are the economic resources of the firm. Most assets are **tangible**—their value comes from the use of their physical substance. Examples include: land, buildings, and equipment. Other assets are **intangible**—their value comes from a legal claim or excess earning power caused by a business transaction (e.g., goodwill, patents, trademarks, and organizational costs). They can also be classified as current or long-term:

**Current Assets:** These are assets that can be converted into cash within one year. They include:

- **Cash** in the bank and on hand. However, only unrestricted cash that is freely available for withdrawal to meet company liabilities shall be classified as a current asset.
- **Marketable securities** listed for trade through a licensed brokerage firm. They may include US. Government obligations, State and Municipal obligations, Corporate Securities, and Money Market Instruments.
- **Accounts receivable** from sales made and billed to customers on credit terms. Only customer accounts receivable arising from the sale of company products shall be classified as a current asset.
- **Inventory** that is good and salable. A merchandising company typically only has one class of inventory, items purchased from suppliers that are awaiting resale. Service companies also typically have one class of inventory, production supplies. Many manufacturers show three different classes of inventory: raw materials, work-in-process, and finished goods.
- **Other Current Assets**, which typically include prepaid insurance, taxes, rent, and interest. Normally, this category is not large in relation to other balance sheet items.

*(Topic continued on next page)*

Current and Long-  
Term Assets  
(continued)

**Long-Term Assets:** These are items that a business cannot easily turn into cash and are not consumed within a business cycle or one year . They include:

- **Fixed assets**, the materials, goods, services, and land used in production. Examples include: real estate, buildings, plant equipment, tools and machinery, furniture, fixtures, office or store equipment, and transportation equipment. All fixed assets, except for land, are regularly depreciated since they eventually wear out.
  - **Other Long-Term Assets**, including:
    - Marketable securities not listed for trade through a licensed brokerage firm.
    - Land, equipment, or buildings not used to produce customer goods or services.
    - Investment in subsidiary companies.
    - Intangible assets or assets usually not available for payment of the debts of a going concern (e.g., goodwill, patents, copyrights, mailing lists, catalogues, trademarks, organization expense, drawings, dies, cuts, patterns, and stock expenses)
    - Amounts due from officers or stockholders.
    - Mortgages and real estate contracts held by the contractor.
    - Claims and miscellaneous accounts.
-

## Current and Long-Term Liabilities

**Current Liabilities:** Current liabilities are obligations that a business must pay within a year. Generally, they are obligations that are due by a specific date, usually within 30 to 90 days. However, generally recognized trade practices may be followed with respect to the exclusion of accounts such as customer's deposits and deferred income, provided an appropriate explanation of the circumstances is made. They include:

- **Notes payable**, including notes payable to banks, notes payable to officers or stockholders of affiliated companies, notes payable to the trade, and notes payable to others.
- **Accounts payable** for merchandise or material requirements purchased on credit terms and not paid.
- **Accrued expenses** including: reserve for taxes; amounts due officers, stockholders, etc.; amounts due affiliated companies; dividends unpaid; and funded current debt.
- **Currently due portion of long-term liabilities.**

**Long -Term Liabilities:** Long-term liabilities are liabilities that will mature in excess of one year from the balance sheet date. Normally, items in this area are retired in annual installments. Long-term liabilities include:

- **Funded debt** including serial bonds; notes on mortgage installments, mortgages; and other funded debts due after one year. This is the most common category of long-term debt.
- **Miscellaneous deferred liabilities** including such accounts as reserves for insurance and reserves for contingencies.
- **Deferred credit** such as unearned income carried as a liability until the related product is completed and delivered.

## Owners' equity

Owners' equity is often referred to as **net worth**, because it is the net difference between the total assets and total liabilities of the firm. It represents the owners' claims against the assets of the firm. It is not a claim against a specific asset (e.g., cash reserved for the owners).

There are two sources of owner's equity:

- The owner's contribution of cash or other assets to the business, sometimes referred to as capital stock.
- Retained earnings, the accumulated profits in excess of losses and payments to the owners. These are the earnings that are retained by the firm to finance operations and growth.

## 8.1 SOURCES OF FINANCIAL INFORMATION

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### Introduction

Analysis of the financial strength of a particular firm always involves comparison. The most common are comparisons with the:

- Same company over time to identify trends in financial capability. Normally, you should consider trends in a firm's financial capabilities over a period of at least three years.
- Industry to see how the firm compares with industry averages.

Do not make comparisons between:

- Individual companies.
    - Two firms being compared may both be financially unsound. In that case, you might judge them to be equally sound and capable of performing the contract. Instead, neither should be considered for award.
    - One of the firms being compared may be the strongest firm in industry. A second firm might look poor by comparison but still be one of the soundest firms in the industry.
  - A company and averages for firms in a different industry or averages for all firms in all industries. Different industries require different financial structures. For example, you would not expect an engineering services firm to have the investment and assets required of a firm involved in the manufacture of heavy equipment.
-

## Sources of Data on Individual Firms

To perform a financial analysis, you must obtain financial data concerning the firm under analysis. Key sources of information include:

**The Firm.** The firm that you are about to analyze should be your primary source of information.

- Publicly traded corporations must prepare annual reports. These reports include several items of information that will be useful in performing a financial analysis:
  - Balance sheets that identify major categories of assets, liabilities, and owner's equity.
  - Profit and loss statements for the fiscal year.
  - Other information concerning problems encountered during the just-completed fiscal year and plans for the future.
- Sole proprietorships and partnerships are not required to prepare annual reports. Normally, you should require these firms to submit balance sheets and profit and loss statements certified by a Certified Public Accountant. Because these entities are not legally separate from the owners of the firm, these documents will include personal as well as business assets.

**Financial Publications.** There are many excellent publications that can provide you with a range of information about specific firms. These include:

- Moody's Investor Services, a Dun & Bradstreet subsidiary, publishes financial data for a wide variety of companies:
  - Industrial Manual—provides information on all corporations listed on the New York Stock Exchange plus over 500 corporations listed on regional exchanges.
  - OTC Manual—provides information on over 3,200 companies traded over-the-counter.
  - Transportation Manual—provides information on all US. companies in every phase of transportation.
  - OTC Unlisted Manual—provides information on 2,000 companies classified as unlisted OTC companies.
  - International Manual—provides information on over 5,000 international companies.

*(Topic continued on next page)*



Sources of Data  
on Individual  
Firms  
(continued)

- Reference Book of Dun and Bradstreet, Inc.—provides a quarterly report on the estimated financial strength and the “composite credit appraisal” of companies in the United States. Its information is arranged by cities.
- Federal Reserve Bank Credit Reports. Contractors who apply for guaranteed loans on Government contracts submit to a thorough credit investigation by the Federal Reserve Bank. The reports of these investigations are available to the contracting officer.
- Macmillan Directory Division publishes information on both domestic and international companies.
  - Directory of Leading Private Companies—provides reports on 7,000 companies.
  - International Directory of Corporate Affiliations—provides reports on 1,550 foreign corporations, their 40,000 United States and foreign holdings, 1,550 US corporations and their 14,000 overseas affiliates.
- Securities and Exchange Commission (US Government Printing Office, Washington, DC) annually publishes a directory of companies required to file Annual Reports with the Securities and Exchange Commission.
- Standard and Poor (McGraw-Hill subsidiary)
  - Corporate Records—provides information on over 12,000 corporations.
  - Stock Reports—provides information on over 4,000 corporations.
- Thomas Register, Company Profiles (Volumes 17 and 18) defines the range of company tangible asset value. For example, a company with tangible assets of \$30 mil would be assigned to the range of over \$25 mil but not over \$50 mil.
- The Value Line Investment Survey—provides a loose-leaf analysis of approximately 600 companies. It contains historical data on earnings, dividends, sales, working capital, and appraisals of the future prospects for the company. Although mainly a manual for investors, it includes valuable general information for financial analysis.

*(Topic continued on next page)*

Sources of Data  
on Individual  
Firms  
(continued)

**Financial Services.** There are many excellent services that can provide you with a range of information about specific firms. One of the most commonly used is:

- Dun and Bradstreet and National Credit Office Services—provides individual reports on current developments concerning size, credit, etc., for many United States and Canadian companies.

Sources Of Data  
On Specific  
Industries

To determine how the firm that you are analyzing compares with industry averages, you must also have information on different industries. Key sources of information include:

- Dun & Bradstreet provides information on major industries in three different formats:
  - Industry Norms and Key Business Ratios, Three Year Edition—provides industry information for the most recently completed 3-year period. Available in directory and diskette versions.
  - Industry Norms and Key Business Ratios, One Year Edition—provides industry information for the most recently completed year. Available in directory and diskette versions.
  - Key Business Ratios, One Year Edition—provides ratios only for the most recently completed year. Available in directory versions only.
- Robert Morris Associates Annual Statement Studies—provides composite financial data on manufacturing, wholesaling, retailing, service, and contracting lines of business. Financial statement on each industry are shown in common size form, and are accompanied by widely used ratios.

## 8.2 DESCRIBING KEY FINANCIAL INDICATORS

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### Introduction

As you learned in Section 8.1, analysis of the financial strength of a particular firm always involves comparison. The most common are comparisons with the:

- Same company over time to identify trends in financial capability. Normally, you should consider trends in a firm's financial capabilities over a period of at least three years.
- Industry to see how the firm compares with industry averages.

To facilitate comparisons, most financial analysis involves the use of ratios. There are numerous ratios that you can calculate to support financial analysis. You should determine which ratios provide you with the type of information that you need to support your analysis. This section examines common examples of four types of ratios: short-term solvency ratios; long-term solvency ratios; efficiency ratios; and profitability ratios. In addition, this section also delineates a model that combines the results of several ratios to predict bankruptcy.

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### Use Caution in Financial Analysis

You should use caution in performing financial analysis:

- Comparisons between different time periods may not be valid if different accounting practices have been used. For example, the firm may have changed from straight-line depreciation to an accelerated depreciation method. These accounting differences may obscure fundamental changes over time.
  - Financial statements represent only one source of financial information concerning a firm and its environment. Other information (i.e. changes in costs or market demand) not disclosed in financial statements may have an impact on the evaluation of financial capabilities.
  - Most financial statements are not adjusted either for changes in market values or in the general price level. This may seriously affect comparability between firms and industry averages.
  - As ratio analysis has increased in popularity, there has sometimes been a tendency to develop ratios which have little or no significance. A meaningful ratio can be developed only from items which have a logical relationship.
-

### Short-Term Solvency Ratios

Solvency, or liquidity, ratios are used to measure the financial soundness of a business and how well it can satisfy its current obligations. These ratios are particularly valuable for evaluating contractor responsibility. Two of the most commonly used short-term solvency ratios are the acid test ratio and the current assets to current liabilities ratio.

In most financial analyses, you will primarily be concerned with the contractor's ability to meet its current obligations, because most contracts take less than one year to complete. Solvency, or liquidity, ratios provide you with measures of the contractor's ability to meet current obligations. You should consider both the acid test ratio and the current assets to current liabilities ratio in every analysis of contractor financial responsibility.

**Acid Test Ratio.** Also known as the quick ratio, this ratio is used to determine how well the firm's current liabilities can be satisfied by the firm's holdings of cash, marketable securities, and net accounts receivable.

$$\text{Acid Test Ratio} = \frac{\text{Cash} + \text{Marketable Securities} + \text{Net Accounts Receivable}}{\text{Current Liabilities}}$$

A high ratio in comparison with industry averages indicates a greater ability to satisfy current liabilities. However, too high a ratio may signify management inefficiency, because too large a proportion of the firm's assets is being held as nonproductive assets.

**Current Assets to Current Liabilities Ratio.** Also referred to as the current ratio, this is the ratio of current assets to current liabilities. Normally, the biggest difference between this ratio and the acid test ratio is the addition of the value of inventories to the numerator.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

As with the acid test ratio, a high ratio in comparison with other firms in the industry indicates a greater ability to satisfy current liabilities. However, a ratio that is too high may signify management inefficiency, because too large a proportion of the firm's assets is being held as nonproductive assets. In addition, be careful when inventory is a large portion of current assets. Values may be inflated by obsolete inventory that has a high book value, but no value in the marketplace.

Long-Term  
Solvency Ratios

While you should be primarily concerned about short-term solvency for most contracts, you also need to be concerned about long-term solvency. A firm with long-term solvency problems, may find it difficult to obtain financing for short-term operations. Long-term solvency is particularly important for contracts and programs extending beyond one year.

Long-term solvency ratios, also known as leverage ratios, measure the firm's long-term capability to meet its financial obligations. Consider the Total Liabilities to Net Worth Ratio in every analysis of contractor financial responsibility. You may also wish to consider the Debt Ratio.

**Total Liabilities to Net Worth Ratio.** Also known as the Debt to Equity Ratio, this ratio measures the relative shares of debt and owner's equity in financing the operations of the firm.

$$\text{Total Liabilities to Net Worth Ratio} = \frac{\text{Total Liabilities}}{\text{Net Worth}}$$

or written another way:

$$\text{Debt to Equity Ratio} = \frac{\text{Total Debt}}{\text{Owner's Equity}}$$

A ratio that is lower than industry averages indicates a relatively lower reliance on debt as a source of funds. This would normally place the firm in a relatively favorable position to borrow money. However, a higher ratio may be desirable at times, especially when a firm is expanding operations. Expanding operations might require increased production and expanded inventories. Debt may be the best source of funds. As operations stabilize at the higher level, cash flow should improve — permitting reduced reliance on debt as a source of funds.

**Debt Ratio.** This ratio measures the percentage of total assets supplied by creditors.

$$\text{Debt Ratio} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

*(Topic continued on next page)*

Long-Term  
Solvency Ratios  
(continued)

This ratio is a different way of looking at the same facts considered in the Total Liabilities to Net Worth Ratio. A Debt ratio of .50 would mean that half the funds required to finance total assets came from debt. A Total Liabilities to Net Worth Ratio of 1.00 would have the same meaning. A Debt Ratio that is low when compared to other firms in the industry indicates that the firm has less reliance on debt as a source of funds. That also indicates lower risk and greater financial stability.

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Efficiency Ratios

Efficiency or operating ratios are measures of the firm's intensity of asset use. The principle efficiency ratios are measures of asset turnover, the average length of time required for assets to be consumed or replaced. The ratios provide measures on the length of time required to turn various assets into cash. The less time required, the more efficiently the firm is operating. Higher efficiency normally indicates higher profitability. High efficiency also indicates it is better able to turn its assets into cash to meet current liabilities.

As you analyze these ratios, contractor trends over time are particularly important. A contractor that is becoming less efficient in using its assets will likely face declining profits and an increasing reliance on borrowing as a source of funds. Declining ratios may also indicate that the contractor is not reacting to a changing market place (e.g., a failure to reduce inventories even though sales are declining).

**Inventory Turnover Ratio.** This ratio provides an indication of the time required to turn inventories into cash.

$$\text{Inventory Turnover Ratio} = \frac{\text{Costs of Goods Sold}}{\text{Average Inventory}}$$

A ratio that is lower than the industry average may indicate that too much cash has been invested in inventory. Excessive inventories tie up funds that could be used elsewhere in operations. They also increase operating costs associated with holding inventory. A ratio that is higher than other firms in the industry may indicate that the firm has insufficient inventories to meet demand. However, it may also indicate that the firm has developed more efficient methods of inventory management.

*(Topic continued on next page)*

Efficiency Ratios  
(continued)

**Assets to Sales Ratio.** This ratio, also known as the asset turnover ratio, measures the intensity with which assets are used to produce sales revenues.

$$\text{Assets to Sales Ratio} = \frac{\text{Net Sales}}{\text{Average Total Assets}}$$

Average total assets are calculated by adding beginning total assets plus ending total assets and dividing the sum by two. The higher the ratio the more sales dollars are produced by each asset dollar and the more efficiently the firm is considered to be operating.

Profitability Ratios

These ratios examine management's overall effectiveness in earning profits. Profitable companies are generating additional funds that can be used as a source of funds to finance company operations.

Gross profit is the difference between net sales and the cost of goods sold, which is the sum of the expenses required to manufacture, purchase, or service customers.

Net profit is gross profit less all expenses directly related to the firm's operations, including income taxes. Net profit after taxes is the basic measure of a firm's operating success. It is net profit that is added to retained earnings or distributed to shareholders as dividends. When a loss occurs (a negative net profit), the loss is charged against net worth as a reduction to the equity account.

**Gross Profit on Net Sales Ratio.** This ratio, also known as the gross margin ratio, calculates the average profit margin on sales. It can help identify trends in a firm's credit policy, purchasing, and general merchandising.

$$\text{Gross Profit on Net Sales Ratio} = \frac{\text{Net Sales} - \text{Cost of Goods Sold}}{\text{Net Sales}}$$

It may vary widely among firms in the same industry, according to sales, location, size, and competition. Firms with a higher ratio are generally more attractive to potential creditors and investors.

*(Topic continued on next page)*

Profitability  
Ratios  
(continued)

**Management Rate of Return.** This ratio quantifies the company's return on investment.

$$\text{Rate of Return} = \frac{\text{Gross Profit}}{\text{Fixed Assets} + \text{Net Working Capital}}$$

This ratio is commonly used to compare both companies and potential investments within a single company. A higher ratio indicates a relatively more profitable use of assets.

Failure Prediction  
Model

In addition to your analysis of the ratios delineated above, you should consider the failure prediction model developed by Edward I. Altman. This model employs five financial ratios to calculate a Z-Score which is used to predict the possibility of future bankruptcy and indicate the need for further analysis. Although, you should not rely on the Z-Score to form an opinion about contractor financial capability, it does provide an initial alert of financial problems.

Z-Score =  $1.2a + 1.4b + 3.3c + 0.6d + 1.0e$ , where:

$$a = \text{Working Capital to Total Assets Ratio} = \frac{\text{Net Working Capital}}{\text{Total Assets}}$$

Net working capital = current assets less current liabilities. The above ratio therefore measures a firm's ability to pay off its short-term liabilities.

$$b = \text{Retained Earnings to Total Assets Ratio} = \frac{\text{Retained Earnings}}{\text{Total Assets}}$$

Note: This ratio measures a firm's use of its total asset base to generate earnings. However, manipulated retained earnings data can distort the numerical results.

$$c = \text{Earnings Before Interest and Taxes (EBIT) to Total Assets Ratio} = \frac{\text{EBIT}}{\text{Total Assets}}$$

Note: The earnings before interest and taxes (EBIT) to total assets ratio, or the rate of return on assets, measures the productivity of a firm's assets.

*(Topic continued on next page)*



Failure Prediction  
Model  
(continued)

$$d = \text{Equity to Debt Ratio} = \frac{\text{Market Value of Common} + \text{Preferred Stock}}{\text{Total Current Debt} + \text{Long Term Debt}}$$

Note: This is the inverse of the Debt to Equity ratio. It shows the amount a firm's assets can decline in value before liabilities exceed assets.

$$e = \text{Sales to Total Assets Ratio} = \frac{\text{Total Sales}}{\text{Total Assets}}$$

Note: This ratio is a measure of the firm's ability to generate sales.

**Z-Score Interpretation.** As with ratio analysis, do not rely on a single Z-Score. Instead, you should use your knowledge of changes in the Z-Score over time (3-5 completed fiscal years) and other available information to develop projections for the contract period.

Use the following table to interpret historical and projected Z-Scores:

PREDICTION BASED ON Z-SCORE	
If the Z-Score is ...	Then there is...
3.00 or more	Little chance of bankruptcy.
1.81 to 2.99	Some chance of bankruptcy.
1.80 or less	Large chance of bankruptcy.

**DCAA Data.** For many publicly held corporations, the DCAA Technical Services Center (TSC), Special Programs Branch can provide Z-Score information for recently completed and prior fiscal years (usually up to five years). The Z-Scores are calculated using financial data provided by Standard and Poors Compustat Services, Inc. DCAA will provide Z-Scores for both the company under review and the average of companies in the related industry.

## 8.3 APPLYING FINANCIAL INDICATORS TO RESPONSIBILITY DECISIONS

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### Introduction

FAR 9.104-1  
FAR 9.105-1

The general standards for contractor responsibility, established in FAR 9.104-1, include a requirement that the prospective contractor have adequate financial resources to perform the contract, or the ability to obtain them. Before making a determination of responsibility, you must possess or obtain information sufficient to satisfy you that the prospective contractor is responsible.

FAR 32.107

However, if the contractor or offeror meets the standards prescribed for a responsible prospective contractor, do not treat the contractor's need for contract financing as a handicap for a contract award (e.g., as responsibility factor or an evaluation criterion). Do not disqualify a contractor from contract financing because the contractor failed to indicate a need for contract financing before the contract was awarded.

FAR 9.106-1a

A preaward survey, including analysis of financial capability, is required when the information on hand or readily available is not sufficient for making a determination regarding responsibility. However, you should not normally request a preaward survey when the contemplated contract:

- Will be for \$25,000 or less.
- Will have a fixed-price of less than \$100,000 and will involve commercial products.

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### Financial Capability Requirements

No specific FAR guidance is provided to assist the buyer in determining the financial analysis required to determine that a prospective contractor has (or does not have) the financial capability required for contract performance. However, review of the Standard Form (SF) 1407, Preaward Survey of Prospective Contractor Financial Capability, provides insight into some of the areas that should be considered.

- Current financial position from the latest balance sheet.
  - Current assets to current liabilities ratio.
  - Acid test ratio.
  - Total liabilities to net worth ratio.
  - Recent sales.
  - Recent profit/loss.
  - Working capital.
  - Other pertinent data including other pertinent ratios that provide useful information for evaluating financial responsibility.
-

### Current Financial Position

The balance sheet of the firm will provide you information on the firm's current financial position. The balance sheet is a report that summarizes the firm's assets and liabilities, as well as its net worth (owner's equity). The report is known as a balance sheet because the sum of all assets must equal (balance) the sum of liabilities and net worth.

For example, Lloyd's Manufacturing has provided you with the following information for the years 19X6 to 19X8:

LLOYD'S MANUFACTURING FINANCIAL POSITION			
Accounts	19X6	19X7	19X8
Cash	\$82,000	\$80,000	\$85,000
Accounts Receivable	\$190,000	\$200,000	\$180,000
Inventory	\$65,000	\$55,000	\$60,400
Other Current Assets	\$0	\$0	\$0
Fixed Assets	\$970,200	\$975,500	\$976,000
<b>Total Assets</b>	<b>\$1,307,200</b>	<b>\$1,310,500</b>	<b>\$1,301,400</b>
Current Liabilities	\$125,000	\$120,500	\$101,600
Long-Term Liabilities	\$275,400	\$295,800	\$300,000
<b>Total Liabilities</b>	<b>\$400,400</b>	<b>\$416,300</b>	<b>\$401,600</b>
<b>Net Worth</b>	<b>\$906,800</b>	<b>\$894,200</b>	<b>\$899,800</b>

Taken alone, the balance sheets provide little insight into the firm's financial capabilities. You must analyze the data presented. As you learned in Section 8.2, there are many ratios that you can use in financial analysis. The SF 1407 requires the computation of three ratios: the Current Assets to Current Liabilities (Current) Ratio, the Acid Test Ratio (Quick) Ratio, and the Total Liabilities to Net Worth Ratio.

In making your analysis, you should consider the 3-year trend in the ratios and a comparison between the ratios and the industry averages.

If analysis of these ratios raises a question or the use of other ratios seems appropriate, you should calculate the appropriate ratios and perform any additional analysis required.

### Current Assets to Current Liabilities Ratio for 19X8

As delineated in Section 8.2, the current assets to current liabilities (current) ratio is calculated as follows:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

**Calculate 19X8 Current Assets:** For Lloyd's Manufacturing, current assets will be the sum of cash (\$85,000), accounts receivable (\$180,000), inventories (\$60,400), and other current assets (\$0). That sum is \$325,400.

**Calculate 19X8 Current Liabilities:** For Lloyd's Manufacturing, current liabilities are \$101,600.

### Calculate the 19X8 Current Ratio:

$$\begin{aligned}\text{Current Ratio} &= \frac{\text{Current Assets}}{\text{Current Liabilities}} \\ &= \frac{\$325,400}{\$101,600} \\ &= 3.2\end{aligned}$$

**Compare with Industry Averages and Related Information:** To evaluate Lloyd's Manufacturing 19X8 Current Assets to Current Liabilities Ratio, you should compare it with the industry. One source of industry averages is *Industry Norms and Key Business Ratios*, published by Dun & Bradstreet, Inc. That book indicates that the upper quartile of manufacturing firms in Lloyd's industry have an average current ratio of 2.8. The middle half have a current ratio of 1.3 and the lower quartile a ratio of .8. Lloyd's ratio of 3.2 appears to indicate that it is more financially secure than most of the firms in its industry.

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Acid Test Ratio  
for 19X8

As delineated in Section 8.2, the acid test ratio is calculated as follows:

$$\text{Acid Test Ratio} = \frac{\text{Cash} + \text{Marketable Securities} + \text{Net Accounts Receivable}}{\text{Current Liabilities}}$$

**Calculate 19X8 Sum of Cash, Marketable Securities, and Net**

**Accounts Receivable:** For Lloyd's Manufacturing, current assets will be the sum of cash (\$85,000) and accounts receivable (\$180,000). That sum is \$265,000.

**Calculate 19X8 Current Liabilities:** For Lloyd's Manufacturing, current liabilities are \$101,600.

**Calculate the 19X8 Ratio:**

$$\begin{aligned} \text{Acid Test Ratio} &= \frac{\text{Cash} + \text{Marketable Securities} + \text{Net Accounts Receivable}}{\text{Current Liabilities}} \\ &= \frac{\$265,000}{\$101,600} \\ &= 2.61 \end{aligned}$$

**Compare with Industry Averages and Related Information:** Industry statistics indicate that the upper quartile of manufacturing firms in Lloyd's industry have an average Acid Test ratio of 2.7. The middle half have an acid test ratio of 1.0 and the lower quartile a ratio of .5. Again, Lloyd's 19X8 ratio appears to indicate that it is as financially secure as the most secure firms in its industry.

Total Liabilities to  
Net Worth Ratio  
19X8

One way to improve the current and acid test ratios is long-term borrowing. For example, long-term borrowing could increase cash without increasing current liabilities. However, too much long-term borrowing could jeopardize the long-term survival of the firm. The Total Liabilities to Net Worth Ratio compares total liabilities to owner's equity as a source of funds. It provides insight into the firm's ability to cover debt and, if necessary, borrow additional funds.

$$\text{Total Liabilities to Net Worth Ratio} = \frac{\text{Total Liabilities}}{\text{Tangible Net Worth}}$$

*(Topic continued on next page)*

Total Liabilities to  
Net Worth Ratio  
for 19X8  
(continued)

**Calculate 19X8 Total Liabilities:** Total liabilities are the sum of current (\$101,600) and long-term liabilities (\$300,000). The sum is \$401,600.

**Calculate 19X8 Net Worth:** Net worth has already been calculated as \$899,800.

**Calculate the Ratio:**

$$\begin{aligned}\text{Total Liabilities to Net Worth Ratio} &= \frac{\text{Total Liabilities}}{\text{Tangible Net Worth}} \\ &= \frac{\$401,600}{\$899,800} \\ &= .446\end{aligned}$$

**Compare with Industry Averages and Related Information:** Industry statistics indicate that the upper quartile of manufacturing firms in Lloyd's industry have a Total Liabilities to Net Worth Ratio of .195 (19.5 percent). The middle half have a total liabilities to net worth ratio of .669 and the lower quartile a ratio of 1.470. While Lloyd's ratio is not among the lowest in the industry, it is lower than the average.

Consider Possible  
Trends in Ratios

After you have calculated the appropriate ratios for the most recent year, examine data for earlier years for a possible trend. You should normally consider at least three years of data.

LLOYD'S MANUFACTURING FINANCIAL POSITION			
Ratio	19X6	19X7	19X8
Current Assets to Current Liabilities	2.70	2.78	3.20
Acid Test	2.18	2.32	2.61
Total Liabilities to Net Worth	0.442	0.466	0.446

For Lloyd's Manufacturing, an analysis reveals the Current Assets to Current Liabilities and the Acid Test Ratios have been improving over the last three years. Examination of the Total Liabilities to Net Worth Ratio does not reveal a trend.

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Recent Sales	<p>The ratios above provide an insight into the firm's current financial status. Analysis of sales data for the current period and past two periods can provide insight into the circumstances affecting the firm's financial position. For example, as a firm increases sales, current liabilities may increase as the firm borrows money to finance additional inventories and accounts receivable. As sales decrease, inventories and material purchases may decrease reducing current assets and current liabilities.</p> <p>In addition, the size of the proposed contract relative to current and recent sales provides insight into the firm's need for additional funds to support the proposed contract. For example, a firm proposing on a contract that is much larger than current annual sales would likely be a greater financial risk than a firm proposing on a contract that is only a fraction of current sales.</p>
Recent Profit/Loss	<p>Profits are essential to a firm's long-term survival. Profits can be retained to finance operations. In addition, a profitable company is a more desirable investment for both potential owners and lenders. Losses will lead to a deteriorating financial position and liabilities will likely increase relative to owner's equity to finance current operations. It will also become increasingly difficult for a firm to obtain additional funds because investors will be unwilling to invest in the firm and lenders less likely to loan money.</p>
Working Capital	<p>Net working capital is calculated by subtracting current liabilities from current assets. Working capital therefore represents assets funded by long-term debt and owner's equity, sources that do not require near-term repayment. The greater the working capital, the greater the assurance that short-term debts will be paid when due. A large amount of working capital (relative to the size of the contract) should increase the likelihood that the firm will be able to obtain any cash needed to finance contract operations. A small amount of working capital may raise serious questions about the firm's ability to obtain any additional funds necessary to complete the contract.</p>

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Other Pertinent  
Data

Any other pertinent data that is uncovered in examining the firm's financial position should also be considered. Examples of additional data that may provide valuable insight include:

- Additional financial ratios highlighting information that is particularly relevant to firms in the industry
- Information indicating an anticipated loss on the proposed contract or other contracts.
- Information indicating a financial restructuring such as the sale or acquisition of facilities.

Analysis  
Conclusion

When you complete your analysis you must make a clear determination on contractor responsibility based on your findings:

- Responsible.
- Responsible with Government contract financing.
- Nonresponsible

For Lloyd's, examination of the three ratios indicates that Lloyd's is in a strong financial position. All three ratios are better than the average firms in the industry. The Current Assets to Current Liabilities and the Acid Test Ratios have improved over the last three years. Unless other data about the firm revealed very negative information, it appears that Lloyd's is financially responsible.



## 8.4 APPLYING FINANCIAL INDICATORS TO CONTRACT FINANCING DECISIONS

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### Introduction

FAR 32.104

FAR 32.104 provides that Government financing shall only be provided to the extent actually needed for prompt and efficient contract performance considering the availability of private financing.

FAR 32.105

Most Government financing methods are intended to be self-liquidating through contract performance. Consequently, you shall normally only use Government financing to finance working capital, not the expansion of contractor-owned facilities or the acquisition of fixed assets. However, under loan guarantees, exceptions can be made for facilities expansion of a minor or incidental nature.

FAR 32.106

Use the following order of preference in considering requests for contract financing, unless an exception would be in the Government's interest in a specific case:

- Private financing without Government guarantee.
- Customary progress payments based on cost.<sup>1</sup>
- Loan guarantees.
- Progress payments based on cost with unusual terms.
- Advance payments.

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### Customary Progress Payments Based on Cost

FAR 32.503-8  
FAR 32.503-9

Customary progress payments are those made using the customary progress payment rate, the cost base, and frequency of payment established in the Progress Payments clause and either the ordinary or alternate liquidation method provided for in FAR 32.503-8 and 32.503-9. Any other progress payments are considered unusual.

*(Topic continued on next page)*

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<sup>1</sup>The progress payments based on physical progress used in construction and ship building are not considered Government financing.

Customary  
Progress  
Payments Based  
on Cost  
(continued)

FAR 32.501-1

FAR 32.502-1

Customary progress payments may be authorized to cover a percentage of cost incurred. Usually, the percentage authorized for small business is higher than the one authorized for large business (e.g., 80 percent for large business and 85 percent for small business). Rates vary from time to time and agency to agency. When considering the use of progress payments based on cost, the amount of working capital required is a primary consideration:

- You generally should not provide for progress payments based on cost for contracts of less than \$1,000,000 unless:
    - The contractor is a small business concern and the contract will involve approximately \$100,000 or more; or
    - The contractor will perform a group of small contracts at the same time and the total impact on working capital is equivalent to a single contract of \$1,000,000 or more.
  - You shall not provide for progress payments if the contract items are quick turnover types (e.g., subsistence or clothing) for which progress payments are not customary commercial practice. Little working capital should be required for such contracts.
  - If not precluded by the paragraphs above, you may provide progress payments if the contractor:
    - Will not be able to bill for the first delivery of products or other performance milestones for a substantial time (normally four months or more for small business concerns and six months or more for others) after work must begin and will make expenditures for contract performance during the predelivery period that have a significant impact on the contractor's working capital.
- and
- Demonstrates actual financial need or the unavailability of private financing. To demonstrate financial need, a potential contractor should be able to present a budgeted balance sheet(s) for the accounting period(s) covered by the contract and projected cash flows. The budgeted balance sheet(s) should reflect the changes in working capital as a result of contract performance. Support data should be provided to document the reasons for any changes.
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Contract Finance  
Office Clearance

FAR 32.502-2

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You shall obtain approval from the agency contract finance office or other designated office before providing progress payments to a contractor:

- Whose financial condition is in doubt (See Section 15.2);
  - Who has had an advance payment request or loan guarantee denied for financial reasons (or approved but withdrawn or lapsed) with the previous 12 months; or
  - Who is named in the consolidated list of contractors indebted to the United States (known commonly as the “Hold-Up List”).
- 

Loan Guarantees  
for Defense  
Production

FAR Subpart 32.3

The Defense Production Act authorizes loan guarantees for contract performance or other operations related to national defense, subject to the amounts annually authorized by Congress on the maximum obligation of any guaranteeing agency, or commitment therewith. The guarantee shall be for less than 100 percent of the loan, unless the agency determines that all of the following conditions exist:

- The circumstances are exceptional.
- The operations of the contractor are vital to the national defense.
- No other means of financing are available.

FAR 32.304-1

**Contractor Request:** A contractor, subcontractor, or supplier that needs operating funds to perform a contract related to national defense may apply to a financing institution for a loan. If the financing institution is willing to extend credit, but considers a Government guarantee necessary, the institution may apply to the Federal Reserve Bank of its district for the guarantee.

*(Topic continued on next page)*

Loan Guarantees  
for Defense  
Production  
(continued)

FAR 32.304-2

**Certificate of Eligibility:** You shall prepare a Certificate of Eligibility for a contract that you believe to be of material consequence when:

- Your agency contract financing office requests it.
- Another interested agency requests it.
- The application for a loan guarantee relates to a contract or subcontract within your cognizance.

The Certificate of Eligibility shall include the following determinations:

- The supplies or services to be acquired are essential to the national defense.
- The contractor has the facilities and the technical and management ability required for contract performance.
- There is no practicable alternate source for the acquisition without prejudice to the national defense. (This statement shall not be included if the firm is a small business.) In making this determination, consider the factors identified in FAR 32.304-2(e).

If you determine that a Certificate of Eligibility is not justified, document the facts and reasons supporting that conclusion and furnish them to the agency contract finance office.

FAR 32.304-2(b)

**Agency Evaluation:** The guaranteeing agency shall evaluate the relevant data, including the certificate of eligibility, the accompanying data, and any other relevant information on the contractor's financial status and performance, then determine whether authorization of a loan guarantee would be in the Government's interest.

FAR 32.304-2(h)

If a loan guarantee is found to be in the Government's interest and the terms and conditions of the proposed guarantee are considered appropriate, the guaranteeing agency shall complete a standard form of authorization as prescribed by the Federal Reserve Board. The Federal Reserve Bank is authorized to execute and deliver to the financing institution a guarantee agreement. The financing institution will then make the loan.

*(Topic continued on next page)*

Loan Guarantees  
for Defense  
Production  
(continued)

FAR 32.304-3

**Guarantee Limit:** The agency shall normally limit the guarantee by means of an asset formula to an amount that does not exceed a specified percentage (90 percent or less) of the contractor's investment (e.g., payrolls and inventories) in defense production contracts.

- The formula may include all items under defense contracts for which the contractor would be entitled to payment on performance or termination.
- The formula shall exclude the following:
  - Amounts for which the contractor has not done any work or made any expenditure.
  - Amounts that would become due as the result of later performance under the contracts
  - Cash collateral or bank deposits.
- Deduct progress payments from the asset formula.

If the formula provides inadequate working capital and credit, the guaranteeing agency may relax the asset formula to an appropriate extent for the time actually necessary for contract performance.

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Unusual Progress  
Payments Based  
on Cost

FAR 32.501-2

Unusual progress payments are any progress payments made using other than the customary progress payment rate, the cost base, and frequency of payment established in the Progress Payments clause and either the ordinary or alternate liquidation method.

You may provide progress payments with unusual terms only if the following conditions are met:

- The contract necessitates predelivery expenditures that are large in relation to contract price and in relation to the contractor's working capital and credit.
- The contractor fully documents an actual need to supplement any private financing available, including guaranteed loans. Working capital requirements should be fully documented.
- The contractor's request is approved by the head of the contracting activity or a designee.
- You obtain approval of the contract finance office or other designated office.

FAR 32.502-2

The difference between the unusual progress payment rate and the customary rate should be the smallest difference possible under the circumstances.

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## Advance Payments

Advance payments may be authorized for any type of contract, however they are generally the least preferred method of contract financing and are rarely authorized. No advance payment over \$25 million shall be made unless the Senate and House Committees on Armed Services are notified in writing and 60 days of continuous session have passed since transmittal of the notification.

### FAR 32.404

**Advance Payments Authorized by Law:** Advance payments are authorized by law for:

- Rent
- Tuition
- Insurance premiums
- Expenses of investigations in foreign countries
- Extension or connection of public utilities for Government buildings or installations.
- Subscriptions to publications.
- Certain purchases of supplies and services in foreign countries.
- Enforcement of the customs or narcotics laws.
- Other transactions authorized by agency procedures under statutory authority.

### FAR 32.403

**Other Appropriate Advance Payments:** Advance payments may also be useful and appropriate for the following:

- Contracts for experimental, research, or development work with nonprofit educational or research institutions.
- Contracts solely for the management and operation of Government-owned plants.
- Contracts for acquisition at cost of facilities for Government ownership.
- Contracts of such highly classified nature that the agency considers it undesirable for national security to permit assignment of claims under the contract.
- Contracts entered into with financially weak contractors whose technical ability is considered essential to the agency.
- Contracts for which a loan by a private financial institution is not practicable, whether or not a loan guarantee is issued.

*(Topic continued on next page)*

Advance  
Payments  
(continued)

- Contracts with small business concerns under circumstances which make advance payments appropriate.
- Contracts under which exceptional circumstances make advance payments the most advantageous contract financing method for both Government and the contractor.

FAR 32.408

**Advance Payment Requests:** A contractor may apply for advance payments before or after contract award. The contractor shall submit any advance payment request to the contracting officer and provide the following information:

- Reference to the contract or solicitation for which advance payment is requested.
- A cash flow forecast showing estimated disbursements and receipts for the period of contract performance.
- The proposed total amount of the advanced payments.
- The name and address of the bank at which the contractor expects to establish a special account as a depository for the advance payment.
- A description of the contractor's efforts to obtain unguaranteed private financing of a guaranteed loan (this requirement is not applicable to contracts identified in FAR 32.403 (a) or (b)).
- Other information appropriate to an understanding of the contractor's financial condition and need; the contractor's ability to perform the contract without loss to the Government; and financial safeguards to the Government.

FAR 32.409

**Contracting Officer Action:** After analysis of the contractor's request, you must recommend approval or disapproval to your agency's approving authority.

- If recommending approval, you must transmit the following:
  - Contract related data.
  - The contractor's request and supporting information.
  - A report of the contractor's past performance, responsibility, technical ability, and plant capacity.
  - Comments on the contractor's need for advance payments and potential Government benefits from contract performance. Analysis should include cash flow analysis and analysis of any appropriate ratios that can be used to indicate the contractor's financial situation and need for working capital.

*(Topic continued on next page)*

Advance  
Payments  
(continued)

FAR 32.410

- Proposed advance payment contract terms, including proposed security requirements.
- The findings and determinations required by FAR 32.410.
- A recommendation for approval of the request.
- Justification for any proposal for waiver of interest charges.

FAR 32.409-2

- If recommending disapproval, you must transmit the following:
    - Contract related data.
    - The contractor's request and supporting information.
    - A report of the contractor's past performance, responsibility, technical ability, and plant capacity.
    - A recommendation for disapproval and the reasons. When appropriate, analysis should include cash flow analysis and analysis of any appropriate ratios that can be used to indicate the contractor's financial situation and need for working capital.
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## 8.5 APPLYING FINANCIAL INDICATORS TO PERFORMANCE BOND DECISIONS

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### Introduction

A performance bond is a written instrument executed by the contractor (the principal) and a second party (the surety or sureties) to assure fulfillment of the principal's contract obligations to a third party (the Government) identified in the bond. If the principal's obligations are not met, the bond assures payment, to the extent stipulated, of any loss sustained by the obligee.

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### Requirement for Construction Contracts

FAR 28.102-1

The Miller Act requires the Government to obtain a performance bond for any construction contract exceeding \$25,000, except that the requirement may be waived:

- By the contracting officer for work performed in a foreign country when you find that it is impracticable for the contractor to furnish a performance bond, or
  - As otherwise authorized by law.
- 

### Requirement for Other Contracts

FAR 28.103-1  
FAR 28.103-2

Generally, you shall not require performance bonds for other than construction contracts. However, performance bonds may be required when necessary to protect the Government's interest. The following situations may warrant a performance bond:

- Government property or funds are to be provided to the contractor for use in performing the contract or as partial compensation.
- A contractor sells assets to or merges with another concern, and the Government, after recognizing the latter concern as successor in interest, desires to assure that it is financially capable. Your analysis of the firm's capabilities should consider the same areas considered in the determination of a prospective contractor's performance capability (See Section 8.2).
  - Current financial position from the latest balance sheet.
  - Current assets to current liabilities ratio.
  - Acid test ratio.
  - Total liabilities to net worth ratio.
  - Recent sales trend.
  - Recent profit/loss trend.
  - Working capital.

*(Topic continued on next page)*

Requirement for  
Other Contracts  
(continued)

- Other pertinent data including other pertinent ratios that provide useful information for evaluating financial responsibility.
- Substantial progress payments are made before commencement of end-item delivery.
- The contract is for dismantling, demolition, or removal of improvements.

Bond Amount

FAR 28.102-2

When a performance bond is required, the penal amount of the bond shall be 100 percent of the original contract price, unless you determine that a lesser amount will protect the Government interest. You may require additional performance bond protection when a contract price is increased. The increase in protection shall generally equal 100 percent of the increase in contract price. You may secure additional protection by directing the contractor to increase the penal amount of the existing bond or by obtaining an additional bond.

## 8.6 APPLYING FINANCIAL INDICATORS TO PROGRESS PAYMENT ADMINISTRATION DECISIONS

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### Introduction

FAR 32.503-6

The Progress Payments clause provides the Government the right to reduce or suspend progress payments, or to increase the liquidation rate, under specified conditions. However, you must only take these actions in accordance with the contract terms and never precipitately or arbitrarily. Take these actions only after:

- Notifying the contractor of the intended action and providing the opportunity for discussion.
- Evaluating the effect of the action on the contractor's operations. In your evaluation, consider the contractor's financial condition, projected cash requirements, and existing or available credit arrangements. Use available contractor projections, input from Government specialists, the techniques for determining contractor capabilities delineated in Section 15.2, and other relevant information.
- Considering the general equities of the particular situation.

Take immediate unilateral action only if warranted by circumstances such as overpayments or unsatisfactory contract performance.

Act fairly and reasonably. Base your decisions on substantial evidence. Document the contract file. Findings made under Paragraph (c) of the Progress Payments clause must be in writing.

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### Suspension or Reduction of Progress Payments

FAR 52.232-16  
FAR 32.503-6

Several situations where you should consider the suspension or reduction of progress payments are enumerated in the Progress Payments clause (FAR 52.232-16), FAR 32.503-6 and the table below:

*(Topic continued on next page)*

## 8.6 Applying Financial Indicators to Progress Payment Administration Decisions

SITUATION	IF...	THEN...
Contractor Noncompliance	The contractor's accounting system or controls are deemed inadequate	Suspend progress payments or suspend the progress payments associated with the unacceptable portion of the accounting system.
	The contractor fails to comply with contract requirements without fault or negligence	Take no action other than to correct overpayments and collect amounts due from the contractor.
Unsatisfactory Financial Condition	You find that contract performance (including liquidation of progress payments) is endangered by the contractor's financial condition, or by a failure to make progress	Require the contractor to make additional operating or financial arrangements adequate for completing the contract without loss to the Government.
	You conclude that further progress payments would increase the probable loss to the Government	Suspend progress payments and all other payments until the unliquidated balance of progress payments is eliminated.
Excessive Inventory	The inventory allocated to the contract exceeds reasonable requirements	<p>Require the transfer of excessive inventory from the contract and take one or more of the following actions:</p> <ul style="list-style-type: none"> <li>• Eliminate the costs of excessive inventory from the costs of eligible progress payments, with appropriate reduction in progress payments outstanding.</li> <li>• Apply additional deductions to billings for deliveries (increase liquidation)</li> </ul>
Delinquency in Payment of Performance Costs	The contractor is delinquent in paying the costs of contract performance	<p>Evaluate whether the delinquency is caused by an unsatisfactory financial condition.</p> <p>If it is, see Unsatisfactory Financial Condition above.</p> <p>If it is not, do not deny progress payments if the contractor agrees to: cure the payment deficiencies; avoid further delinquencies; and make additional arrangements to complete the contract without loss to the Government.</p>
	The contractor has in good faith, disputed amounts claimed by subcontractors, suppliers or others	Do not consider the payments delinquent until the amounts due are established by the parties through litigation or arbitration.
	The contractor may be delinquent in making contributions under employee pension, profit sharing, or stock ownership plans	Assure that accrued costs are paid in accordance with the Progress Payments clause.
Fair Value of Undelivered Work	The unliquidated progress payments exceed the value of undelivered work	<p>Take appropriate action, considering the:</p> <ul style="list-style-type: none"> <li>• Degree of contract completion.</li> <li>• Quality and amount of work performed on the undelivered portion of the contract.</li> <li>• Amount of work remaining to be done and the estimated cost of completion.</li> <li>• Amount remaining unpaid under the contract.</li> </ul>
Loss Contracts	The total costs incurred under the contract plus the estimated cost to complete are likely to exceed the contract price	Compute a loss ratio factor and reduce progress payments to exclude the element of loss.

## Loss Contracts

To request progress payments, contractors complete and submit Standard Form (SF) 1443. Among other information, the SF 1443 provides the “Contract Price” (Item 5 on the form), “Total Costs Incurred to Date” (Item 12a) and “Estimated Additional Cost to Complete” (Item 12b). What if the “Contract Price” is less than the sum of Items 12a and 12b? In such situations, the FAR requires you to perform a “supplementary analysis” which involves the calculation and application of a loss ratio factor.

The following are the steps of a supplementary analysis, using data from a sample Standard Form 1443, Contractor's Request for Progress Payments.

Whenever you apply a loss ratio to reduce the dollar amount of progress payments requested by the contractor, you must perform a similar analysis and attach the analysis to the SF 1443. Then advise the contractor in writing of the differences between your supplementary analysis and the contractor's original analysis (as recorded on the SF 1443).

FAR 32.503-6(g)(4)

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## SUPPLEMENTARY ANALYSIS

### Section I

#### Calculate Revised Contract Price

In your analysis of the contractor's request for progress payments (SF 1443), substitute the result of the calculation below for the dollar amount recorded in Item 5, “Contract Price.”

Contract Price ( <i>Item 5</i> )	\$950,000
+ Pending change orders and unpriced orders (to extent funds have been obligated)	\$70,000
= <i>Revised Contract Price</i>	\$1,020,000

*(Supplementary Analysis continued on next page)*

**Section II****Estimate Total Cost At Completion**

Note that the estimated total cost at completion includes all costs, including costs not otherwise eligible for progress payments. If you have reason to believe that the contractor has understated the estimated additional cost to complete the work, you may need to supplement your own best estimate for the contractor's.

Total costs incurred to date ( <i>SF 1433, Item 12a</i> )	\$900,000
+ Estimated additional cost to complete ( <i>SF 1433, Item 12b</i> )	\$300,000
= <i>Estimated total cost at completion</i>	\$1,200,000

**Calculate The Loss Ratio**

<i>Revised Contract Price</i>	\$1,020,000
÷ <i>Estimated total cost at completion</i> × 100	\$1,200,000
= <i>Loss Ratio</i>	85%

**Calculate “Recognized Costs for Progress Payments”**

In your analysis of the contractor's request for progress payments (SF 1443), substitute the result of the calculation below for the contractor's dollar amount in Item 11 (“Total Costs Eligible for Progress Payments”). Note that not all incurred costs are eligible for progress payments. The Progress Payments clause identifies a number of ineligible costs. For instance, unallowable indirect costs are NOT eligible.

Total Costs Eligible For Progress Payments ( <i>SF 1433, Item 11</i> )	\$850,000
× <i>Loss Ratio</i>	85%
= <i>Recognized Costs for Progress Payment</i>	\$722,500

(Supplementary Analysis continued on next page)

**Calculate an “Alternate Amount”**

In your analysis of the contractor's request for progress payments (SF 1443), substitute the result of the calculation below for the dollar amount in Item 13 of the SF 1443.

<i>Recognized Costs for Progress Payment.</i>	\$722,500
<b>X</b> Progress Payment Rate ( <i>Item 6a</i> )	80%
<b>=</b> <i>Alternate Progress Payment Amount</i>	\$578,000

**Section III:****Calculate the total contract price of delivered, invoiced, and accepted items**

In your analysis of the contractor's request for progress payments (SF 1443), substitute the result of the calculation below for the dollar amount in Item 20a (“Costs Included in Item 11, Applicable to Items Delivered, Invoiced, and Accepted to the Date in Heading of Section II”).

When the contractor is in a loss situation, such costs would of necessity exceed the unit price paid for the items.

Price Paid for Items Delivered, Invoiced and Accepted	\$250,000
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**Calculate the “Recognized Cost of Undelivered Items”**

In your analysis of the contractor's request for progress payments (SF 1443), substitute the result of the calculation below for the dollar amount in Item 20b (“Costs Eligible For Progress Payments, Applicable To Undelivered Items And To Delivered Items Not Invoiced And Accepted”).

<i>Recognized Costs for Progress Payment.</i>	\$722,500
<b>-</b> Price Paid for Items Delivered, Invoiced and Accepted	\$250,000
<b>=</b> <i>Recognized Costs Applicable to Undelivered Items</i>	\$472,500

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*(End of Supplementary Analysis)*

Loss Contracts  
(continued)

The table below compares a contractor's analysis of the progress payment amount with the results of the above supplementary analysis. The contractor's analysis supports a progress payment amount of \$144,000 (see Item 26). The contracting officer substituted figures (see the numbers in bold type) from the supplementary analysis to authorize a payment of only \$78,000.

**Data From A Sample SF 1443 Contractor's Request For Progress Payments**

<i>Items</i>	<i>Item Labels</i>	<i>Per Contractor Request</i>	<i>Per Supplemental Analysis</i>
5	Contract Price	\$950,000	<b>\$1,020,000</b>
6a	Prog. Pymts	80%	80%
6b	Liquidation	80%	80%
11	Total Costs Eligible For Progress Payments	\$850,000	<b>\$722,500</b>
12a	Total Costs Incurred to Date	\$900,000	\$900,000
12b	Estimated Additional Cost to Complete	\$300,000	\$300,000
13	Item 11 multiplied by item 6a	\$680,000	<b>\$578,000</b>
14e	Eligible Subcontractor Progress Payments	\$0	\$0
15	Total Dollar Amount (Item 13 + 14e)	\$680,000	\$578,000
16	Item 5 Multiplied by Item 6b	\$760,000	\$816,000
17	Lesser of Item 15 or 16	\$680,000	\$578,000
18	Total Amount of Previous Progress Payments Requested	\$500,000	\$500,000
19	Maximum Balance Eligible for Progress Payments (Item 17 less 18)	\$180,000	\$78,000
20a	Costs Included In Item 11, Applicable to Items Delivered, Invoiced, and Accepted to the Date in the Heading of Section II	\$295,000	<b>\$250,000</b>
20b	Costs Eligible for Progress Payments, Applicable to Undelivered Items (Item 11 less 20a)	\$555,000	<b>\$472,500</b>
20c	Item 20b Multiplied by Item 6a	\$444,000	\$378,000
20d	Eligible Subcontractor Progress Payments (14e)	\$0	\$0
20e	Limitation (Item 20c + 20d)	\$444,000	\$378,000
21a	Contract Price of Items Delivered, Invoiced, and Accepted to the Date in the Heading of Section II	\$250,000	\$250,000
21b	Contract Price of Items Not Delivered, Accepted, and Invoiced (Item 5 less 21a)	\$700,000	\$770,000

(Table continued on next page)



## 8.6 Applying Financial Indicators to Progress Payment Administration Decisions

21c	Item 21b multiplied by Item 6b	\$560,000	\$616,000
21d	Unliquidated Advanced Payments ...	\$0	\$0
21e	Limitation (Item 21c less 21d)	\$560,000	\$616,000
22	Maximum Unliquidated Progress Payments (Lesser of Item 20e or 21e)	\$444,000	\$378,000
23	Total Amount Applied and to be Applied to Reduce Progress Payment (i.e., the liquidated amount — the \$250,000 from Item 21a multiplied by the liquidation rate (80%)).	\$200,000	\$200,000
24	Unliquidated Progress Payments (Item 18 less 23)	\$300,000	\$300,000
25	Maximum Permissible Progress Payments (Item 22 less 24)	\$144,000	\$78,000
26	Amount of Current Invoice for Progress Payment (lesser of item 25 or 19)	\$144,000	\$78,000

### Liquidation Rate

FAR 32.503-8

Progress payments are recouped by the Government through the deduction of liquidations from payments that would otherwise be due to the contractor for completed work. To determine the amount of liquidation, a liquidation rate is applied to the contract price of contract items delivered and accepted.

*(Topic continued on next page)*

Liquidation Rate  
(continued)

FAR 32.503-7  
FAR 32.503-8

**Ordinary Method:** The ordinary method of liquidation is to use a rate that is the same as the progress payment rate. This is the only method that can be used at the beginning of a contract. If the contractor is subject to Cost Accounting Standard 410, an adjustment may be required for G&A costs not eligible for progress payments.

**For Example:** Suppose that you have an \$11 million dollar firm fixed-price contract with four line items priced at \$2.75 million each. Estimated cost is \$10 million and actual cost is equal to estimated cost. The table below depicts the ordinary method of progress payment liquidation when the progress payment and liquidation rates are both 80 percent.

PROGRESS PAYMENT LIQUIDATION									
Month	Monthly Contract Cost	Progress Payment Rate	Monthly Progress Payments	Price of Items Delivered	Liquidation Rate	Progress Payment Liquidation	Adjustment to Payment	Total Paid	Unliquidated Progress Payment
1	\$100,000	80%	\$80,000		80%	\$0	\$0	\$80,000	\$80,000
2	\$250,000	80%	\$200,000		80%	\$0	\$0	\$280,000	\$280,000
3	\$250,000	80%	\$200,000		80%	\$0	\$0	\$480,000	\$480,000
4	\$400,000	80%	\$320,000		80%	\$0	\$0	\$800,000	\$800,000
5	\$550,000	80%	\$440,000		80%	\$0	\$0	\$1,240,000	\$1,240,000
6	\$600,000	80%	\$480,000		80%	\$0	\$0	\$1,720,000	\$1,720,000
7	\$700,000	80%	\$560,000		80%	\$0	\$0	\$2,280,000	\$2,280,000
8	\$650,000	80%	\$520,000		80%	\$0	\$0	\$2,800,000	\$2,800,000
9	\$725,000	80%	\$580,000		80%	\$0	\$0	\$3,380,000	\$3,380,000
10	\$850,000	80%	\$680,000		80%	\$0	\$0	\$4,060,000	\$4,060,000
11	\$600,000	80%	\$480,000		80%	\$0	\$0	\$4,540,000	\$4,540,000
12	\$950,000	80%	\$760,000	\$2,750,000	80%	\$2,200,000	\$550,000	\$5,850,000	\$3,100,000
13	\$825,000	80%	\$660,000		80%	\$0	\$0	\$6,510,000	\$3,760,000
14	\$925,000	80%	\$740,000	\$2,750,000	80%	\$2,200,000	\$550,000	\$7,800,000	\$2,300,000
15	\$550,000	80%	\$440,000		80%	\$0	\$0	\$8,240,000	\$2,740,000
16	\$450,000	80%	\$360,000	\$2,750,000	80%	\$2,200,000	\$550,000	\$9,150,000	\$900,000
17	\$375,000	80%	\$300,000		80%	\$0	\$0	\$9,450,000	\$1,200,000
18	\$250,000	80%	\$200,000	\$2,750,000	*	\$1,400,000	\$1,350,000	\$11,000,000	\$0
Total	\$10,000,000		\$8,000,000	\$11,000,000		\$8,000,000	\$3,000,000		

\* Remaining unliquidated progress payments.

(Topic continued on next page)

Liquidation Rate  
(continued)

32.503-9

**Alternate Method:** The ordinary method shall be used throughout the contract unless you adjust the liquidation method. The alternate method permits the contractor to retain the earned profit element of the contract price for completed items.

**You MAY reduce the liquidation rate** (increasing contractor working capital) if ALL of the following requirements are met:

- The contractor requests a reduction in rate.
- The liquidation rate has not been reduced in the preceding 12 months.
- The contract delivery schedule extends at least 18 months from the contract award date.
- Actual cost data are available for products delivered or, if no products have been delivered, for a performance period of at least 12 months
- The reduced liquidation rate would result in the Government recouping under each invoice the full extent of the progress payments applicable to that invoice.
- The contractor would not be paid for more than the costs of items delivered and accepted (less allocable progress payments) and the earned profit on those items.
- The unliquidated progress payments would not exceed the limit prescribed in Paragraph (a)(4) of the Progress Payments clause.
- The parties agree on an appropriate rate.
- The contractor agrees to certify annually, or more often if requested, that the alternate rate continues to meet the liquidation requirements in the 5th, 6th, and 7th bullets above. The certificate must be accompanied by adequate supporting information.

*(Topic continued on next page)*

Liquidation Rate  
(continued)

FAR 32.503-10

You can calculate the minimum liquidation rate using the following formula:

$$\text{Minimum Liquidation Rate} = \frac{\text{Total Estimated Cost} \times \text{Progress Payment Rate}}{\text{Estimated Contract Price}}$$

**Total Estimated Cost** = Usually, this is the total estimated cost for the contract.

- In certain cases, exclude part of the contractor's G&A when the contractor is involved with the implementation of CAS 410 (See FAR 32.503-7 and 32.503-8).
- Cost may be adjusted to include the estimated cost of any work authorized but not yet priced, however the cost must not exceed the price of all authorized work or the funds or the funds obligated for the contract.

**Estimated Contract Price** = Usually, this is the price of an FFP contract or the estimated price for other fixed-price contracts.

- Price may be adjusted to include the estimated price of any work authorized but not yet priced, however the cost must not exceed the price of all authorized work or the funds or the funds obligated for the contract

**For example:** If the progress payment rate is 80 percent, the estimated contract cost is \$10 million, and the estimated contract price is \$11 million, the rate would be calculated as follows:

$$\text{Minimum Liquidation Rate} = \frac{\$10,000,000 \times 80\%}{\$11,000,000}$$

Minimum Liquidation Rate = 72.8%

(The minimum rate is normally rounded up to the next highest tenth of a percent, because rounding down would produce a rate below the minimum rate calculated.)

*(Topic continued on next page)*

## 8.6 Applying Financial Indicators to Progress Payment Administration Decisions

### Liquidation Rate (continued)

Assuming that you adopted the alternate liquidation rate calculated above in the thirteenth month of contract performance and contract costs and deliveries are the same as in the table above, the payment pattern would be revised as shown in the table below. Note that the alternate liquidation rate substantially increases the total amount paid to the contractor prior to final delivery.

PROGRESS PAYMENT LIQUIDATION									
Month	Monthly Contract Cost	Progress Payment Rate	Monthly Progress Payments	Price of Items Delivered	Liquidation Rate	Progress Payment Liquidation	Adjustment to Payment	Total Paid	Unliquidated Progress Payment
1	\$100,000	80%	\$80,000		80.0%	\$0	\$0	\$80,000	\$80,000
2	\$250,000	80%	\$200,000		80.0%	\$0	\$0	\$280,000	\$280,000
3	\$250,000	80%	\$200,000		80.0%	\$0	\$0	\$480,000	\$480,000
4	\$400,000	80%	\$320,000		80.0%	\$0	\$0	\$800,000	\$800,000
5	\$550,000	80%	\$440,000		80.0%	\$0	\$0	\$1,240,000	\$1,240,000
6	\$600,000	80%	\$480,000		80.0%	\$0	\$0	\$1,720,000	\$1,720,000
7	\$700,000	80%	\$560,000		80.0%	\$0	\$0	\$2,280,000	\$2,280,000
8	\$650,000	80%	\$520,000		80.0%	\$0	\$0	\$2,800,000	\$2,800,000
9	\$725,000	80%	\$580,000		80.0%	\$0	\$0	\$3,380,000	\$3,380,000
10	\$850,000	80%	\$680,000		80.0%	\$0	\$0	\$4,060,000	\$4,060,000
11	\$600,000	80%	\$480,000		80.0%	\$0	\$0	\$4,540,000	\$4,540,000
12	\$950,000	80%	\$760,000	\$2,750,000	80.0%	\$2,200,000	\$550,000	\$5,850,000	\$3,100,000
13	\$825,000	80%	\$660,000		72.8%	(\$198,000)	\$198,000	\$6,708,000	\$3,958,000
14	\$925,000	80%	\$740,000	\$2,750,000	72.8%	\$2,002,000	\$748,000	\$8,196,000	\$2,696,000
15	\$550,000	80%	\$440,000		72.8%	\$0	\$0	\$8,636,000	\$3,136,000
16	\$450,000	80%	\$360,000	\$2,750,000	72.8%	\$2,002,000	\$748,000	\$9,744,000	\$1,494,000
17	\$375,000	80%	\$300,000		72.8%	\$0	\$0	\$10,044,000	\$1,794,000
18	\$250,000	80%	\$200,000	\$2,750,000	*	\$1,994,000	\$756,000	\$11,000,000	\$0
Total	\$10,000,000		\$8,000,000	\$11,000,000		\$8,000,000	\$3,000,000		

\* Remaining unliquidated progress payments.

*(Topic continued on next page)*

Liquidation Rate  
(continued)

32.503-9

**You SHALL increase the liquidation rate** (decreasing contractor working capital) if ANY of the following circumstances exists:

- The rate shall be increased for both previous and subsequent transactions, if the contractor experiences a lower profit rate than the rate anticipated at the time the liquidation rate was associated with contract items already delivered, as well as subsequent progress payments.
- The rate shall be increased or decreased in keeping with successive changes to the contract price or target profit when:
  - The target profit is changed under a fixed-price incentive contract with successive targets;or
  - A redetermined price involves a change in the profit element under a contract with prospective price redetermination at stated intervals.

Whenever you change the liquidation rate, you shall issue a contract modification changing the liquidation rate in the Progress Payments clause. Adequate consideration for these modifications is included in the initial contract. The parties shall promptly make the payment or liquidation required by the change.

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## 8.7 APPLYING FINANCIAL INDICATORS TO DECISIONS ON THE NEED FOR A SUBORDINATION AGREEMENT

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### Introduction

A subordination agreement is an agreement whereby a creditor of a contractor subordinates any security interest in progress payment inventory to the rights of the Government in the same property. For example, a firm may have a lien on the contractor's inventory. Before the Government can make progress payments for material acquisition, the Government must have assurances that the creditor will not claim the material as part of the contractor's inventory subject to the lien.

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### Need for a Subordination Agreement

Determine the need for a subordination agreement after consultation with your organization's legal counsel. As you make your determination, consider:

- The ability of the contractor's accounting system to support progress payments, including the segregation of Government inventory from the general inventory.
- The contractor's present financial position and projections for the future (See Section 8.3).
- The type of contract and the nature of the work being done under the contract.
- The contractor's production capabilities and projections for contract completion of the contract in the required time and in accordance with contract requirements.

Do not delay the obtaining of a subordination agreement until the contractor's financial problems imperil contract performance. It is more difficult to protect the Government's interest when the contractor is really in trouble.

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### Obtaining a Subordination Agreement

Do not attempt to obtain a subordination agreement directly from the contractor's creditor. You should request the agreement from the contractor because the contract is between the Government and the contractor. However, if you believe that the creditor might be unnecessarily alarmed by a Government request for subordination, you should consider meeting with both the creditor and the contractor to clarify the situation.

*(Topic continued on next page)*

Obtaining a  
Subordination  
Agreement  
(continued)

If the creditor refuses to execute an agreement, that may indicate that the contractor has serious financial problems. Inquire into the reasons surrounding the creditor's refusal, to determine if the contractor's financial position warrants more drastic action (e.g., a finding of nonresponsibility for a proposed contractor or the suspension of progress payments for an existing contractor).

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Subordination  
Agreement Text

The FAR does not prescribe a format for a subordination agreement. The following is the body of an agreement format developed by the Defense Contract Management Command for use with corporate creditors. You can use your agency's format or tailor this format to your specific requirement. Of course, you must assure that the person signing the agreement has the authority to bind the firm to such an agreement.

*(Topic continued on next page)*



### SUBORDINATION AGREEMENT

\_\_\_\_\_, a corporation of \_\_\_\_\_, hereinafter called the Debtor, has entered into Contract Numbers \_\_\_\_\_ with the United States of America, hereinafter called the Government, for the furnishing of defense supplies and expects to enter into future contracts with the Government for the furnishing of defense supplies. Said contracts include the Progress Payments clause. Pursuant thereto, the Debtor has requested the Government to provide progress payments, which request the Government is willing to grant in accordance with the terms of said clause and upon condition that \_\_\_\_\_, hereinafter referred to as the Creditor, agrees to subordinate to the rights of the Government under or arising out of said contracts and future contracts, any and all present and future recorded or perfectible liens under the Uniform Commercial Code or other liens or interest of the Creditor with respect to any parts, material, inventory or work in process, and other property to which the Government has title pursuant to paragraph (d) of said Progress Payments clause. In consideration of the making of progress payments to the Debtor by the Government, the undersigns agrees as follows:

Any and all present and future recorded or perfectible liens under the Uniform Commercial Code or other liens or interest of the undersigned Creditor with respect to any of the parts, material, inventory or work in process, and other property to which the Government has title pursuant to paragraph (d) of said Progress Payments clause, are fully subordinated to the rights and interests of the Government under or arising out of the aforementioned contracts and future contracts.

If any person, firm, corporation or entity other than the Debtor becomes obligated to perform said contracts or any part thereof, whether by operation of law or otherwise, any and all present and future rights of the Creditor shall remain fully subordinated to the rights of the Government.

The Subordination Agreement shall not be affected by any action extending the time of performance of said contracts or by making of any amendment or modification authorized by the terms of said contracts.

The Creditor hereby certifies that it has not given or executed any prior Subordination Agreement with respect to its claims against the Debtor except as follows:

\_\_\_\_\_.

The Creditor hereby agrees to direct the Debtor (a) to mark its records in accordance with this Subordination Agreement and (b) to confirm receipt of notice by signing in the place indicated below.

This Agreement shall inure to the benefit of and may be enforced by the United States.

## QUESTIONS AND PROBLEMS

1. List four examples of current assets.
2. What are long-term assets?
3. List four examples of current liabilities.
4. List four examples of long-term liabilities.
5. Should you use financial ratios to make direct comparisons between two different companies?
6. What three ratios should you always consider in analysis of contractor responsibility?
7. What method of contract financing is preferred by the Government?
8. Performance bonds are normally required for what type of contract?
9. What is the formula for calculating the loss ratio for progress payments?
10. What is the formula for calculating the minimum liquidation rate?

11. What is a subordination agreement?

12. Should you contact a contractor's creditor concerning the need for an agreement?

### WELLS ANALYSIS

WELLS CORPORATION FINANCIAL POSITION	
Cash	\$100,000
Accounts Receivable	\$140,000
Inventory	\$198,000
Other Current Assets	0
Total Current Assets	\$438,000
Fixed Assets	\$1,562,000
Current Liabilities	\$780,000
Long Term Liabilities	\$306,000
Total Liabilities	\$1,086,000
Net Worth	\$914,000

1. Calculate the Current Ratio for the Wells Corporation.
2. Calculate the Acid Test Ratio for the Wells Corporation.
3. Calculate the Total Liabilities to Net Worth Ratio for the Wells Corporation.
4. The Wells Corporation is an oil and gas exploration services company. Based only on the above ratios, what is your assessment of the firm's financial responsibility?
5. What other information would be useful in your analysis?

**BUCKNER ANALYSIS**

<b>BUCKNER CORPORATION FINANCIAL POSITION</b>	
Cash	\$385,000
Accounts Receivable	\$525,000
Inventory	\$346,500
Other Current Assets	0
Total Current Assets	\$1,256,500
Fixed Assets	\$2,243,500
Current Liabilities	\$700,000
Long Term Liabilities	\$875,000
Total Liabilities	\$1,575,000
Net Worth	\$1,925,000

1. Calculate the Current Ratio for the Buckner Corporation.
2. Calculate the Acid Test Ratio for the Buckner Corporation.
3. Calculate the Total Liabilities to Net Worth Ratio for the Buckner Corporation.
4. The Buckner Corporation is an oil and gas exploration services company. Based only on the above ratios, what is your assessment of the firm's financial responsibility?
5. What other information would be useful in your analysis?

## **INDUSTRY FINANCIAL RATIOS**

**WELLS REVISITED**

<b>WELLS CORPORATION FINANCIAL POSITION</b>	
Cash	\$100,000
Accounts Receivable	\$140,000
Inventory	\$198,000
Other Current Assets	0
Total Current Assets	\$438,000
Fixed Assets	\$1,562,000
Current Liabilities	\$780,000
Long Term Liabilities	\$306,000
Total Liabilities	\$1,086,000
Net Worth	\$914,000

The Financial Statement above summarizes the financial position of the Wells Corporation. Based on your evaluation of the firm's overall responsibility, you awarded Wells a contract for analysis of United States oil reserves. The contract provides for progress payments based on cost.

1. What effect, if any, will a \$50,000 progress payment have on Wells' financial ratios?
2. Based on your answer to Question 1, how should this contract affect the firm's ability to obtain additional contracts?

### SEALS PROGRESS

Seals Solutions is the contractor for the SEALSTAR I. Information from technical personnel and the the contractor's request for progress payments indicate that Seals's cost to complete the contract price is as follows.

Contract Price	= \$750,000
Cost Incurred	= \$500,000
Additional Cost to Complete the Contract	= \$310,000
Progress Payment Rate	= 80%
Progress Payments to Date	= \$336,000 (80% of \$420,000)

You have just received a progress payment request for \$80,000. (NOTE: This \$80,000 is included in the \$500,000 total cost incurred.)

1. Calculate the loss ratio.
2. Determine the appropriate progress payment.



## ANDERSON LIQUIDATION

Data from a \$4,600,000 firm fixed-price Anderson Systems contract will be used to demonstrate the administration of progress payments.

PROGRESS PAYMENT LIQUIDATION									
Month	Monthly Contract Cost	Progress Payment Rate	Monthly Progress Payments	Price of Items Delivered	Liquidation Rate	Progress Payment Liquidation	Adjustment to Payment	Total Paid	Unliquidated Progress Payment
1	\$75,000	80%							
2	\$105,000	80%							
3	\$154,000	80%							
4	\$178,000	80%							
5	\$184,000	80%							
6	\$168,000	80%							
7	\$215,000	80%							
8	\$192,000	80%							
9	\$436,000	80%							
10	\$181,000	80%							
11	\$214,000	80%							
12	\$265,000	80%							
13	\$275,000	80%							
14	\$362,000	80%							
15	\$225,000	80%							
16	\$246,000	80%							
17	\$275,000	80%							
18	\$250,000	80%							
Total	\$4,000,000								

1. Calculate the progress payments for each of the 18 months of the contract.
2. The contract includes four units of a single item. The price is \$1,150,000 each. Deliveries take place in Months 12, 14, 16, and 18. What is the total amount paid the contractor in Month 12?

3. In Month 13, Anderson requests use of an alternate liquidation rate. Assuming that you feel that use of an alternate rate is proper, what is the minimum rate that you could use if the estimated cost at completion is \$4,000,000?
4. Assuming that you use the minimum liquidation rate, what is the effect on contract payments during Month 13?
5. Given the data above, what is the maximum amount of progress payments?

APPENDIX 6A PERFORMANCE EVALUATION CRITERIA						
		Submarginal	Marginal	Good	Very Good	Excellent
A Time of Delivery	A-1 Adherence to Plan Schedule	Consistently late on 20% of plans	Late on 10% plans w/o prior agreement	Occasional plan late w/o justification	Meets plan schedule	Delivers all plans on schedule & meets prod. change requirements on schedule
	A-2 Action on Anticipated Delays	Does not expose changes or resolve them as soon as recognized	Exposes changes but is dilatory in resolution on plans	Anticipates changes, advises Shipyard but misses completion of design plans 10%	Keeps Shipyard posted on delays, resolves independently on plans	Anticipates in good time, advises Shipyard, resolves independently and meets production schedule
	A-3 Plan Maintenance	Does not complete interrelated systems studies concurrently	Systems studies completed but constr. plan changes delayed	Major work plans coordinated in time to meet production schedules	Design changes from studies and inter-related plans issued in time to meet product schedules	Design changes, studies resolved and test data issued ahead of production requirements
B Quality of Work	B-1 Work Appearance	25% dwgs. not compatible with Shipyard repro. processes and use	20% not compatible with Shipyard repro. processes and use	10% not compatible with Shipyard repro. processes and use	0% dwgs. prepared by Des. agent not compatible with Shipyard repro. processes and use	0% dwgs. presented incl. Des. agent, vendors, subcontr. not compatible with Shipyard repro. processes and use
	B-2 Thoroughness and Accuracy of Work	Is brief on plans tending to leave questionable situations for Shipyard to resolve	Has followed guidance, type and standard dwgs.	Has followed guidance, type and standard dwgs. questioning and resolving doubtful areas	Work complete with notes and thorough explanations for anticipated questionable areas	Work of highest caliber incorporating all pertinent data required including related activities
	B-3 Engineering Competence	Tendency to follow past practice with no variation to meet requirements job in hand	Adequate engrg. to use & adapt existing designs to suit job on hand for routine work	Engineered to satisfy specs., guidance plans and material provided	Displays excellent knowledge of constr. reqmts. considering systems aspect, cost, shop capabilities and procurement problems	Exceptional knowledge of Naval shipwork & adaptability to work process incorporating knowledge of future planning in Design

APPENDIX 6A PERFORMANCE EVALUATION CRITERIA (continued)						
		Submarginal	Marginal	Good	Very Good	Excellent
B Quality of Work (continued)	B-4 Liaison Effectiveness	Indifferent to requirements of associated activities, related systems, and Shipyard advice	Satisfactory but dependent on Shipyard to force resolution of problems without constructive recommendations to subcontr. or vendors	Maintains normal contact with associated activities depending on Shipyard for problems requiring military resolution	Maintains independent contact with all associated activities, keeping them informed to produce compatible design with little assistance for Yard	Maintain expert contact, keeping Shipyard informed, obtaining info from equip., supplies w/o prompting by Shipyard
	B-5 Independence and Initiative	Constant surveillance req'd to keep job from slipping	Requires occasional prodding to stay on schedule & expects Shipyard resolution of most problems	Normal interest and desire to provide workable plans with average assistance & direction by Shipyard	Complete & accurate job. Free of incompatibilities with little or no direction by Shipyard	Develops complete and accurate plans, seeks out problem areas and resolves with assoc. act. ahead of schedule
C Effectiveness in Controlling and/or Reducing Costs	C-1 Utilization of Personnel	Planning of work left to designers on drafting boards	Supervision sets & reviews goals for designers	System planning by supervisory, personnel, studies checked by engineers	Design parameters established by system engineers & held in design plans	Mods. to design plans limited to less than 5% as result lack engrg. system correlation
	C-2 Control Direct Charges (except Labor)	Expenditures not controlled for services	Expenditures reviewed occasionally by supervision	Direct charges set & accounted for on each work package	Provides services as part of normal design function w/o extra charges	No cost overruns on original estimates absorbs service demands by Shipyard
	C-3 Performance to Cost Estimate	Does not meet cost estimate for original work or changes 30% time	Does not meet cost estimate for original work or changes 20% time	Exceeds original est. on change orders 10% time and meets original design costs	Exceeds original est. on change orders 5% time	Never exceeds estimates of original package or change orders

## APPENDIX 6B CONTRACTOR PERFORMANCE EVALUATION REPORT

Ratings  
Excellent  
Very Good  
Good  
Marginal  
Submarginal

Period of \_\_\_\_\_ 19 \_\_\_\_  
Contract Number \_\_\_\_\_  
Contractor \_\_\_\_\_  
Date of Report \_\_\_\_\_  
PNS Technical Monitor/s \_\_\_\_\_  
\_\_\_\_\_

Category	Criteria	Rating	Item Factor	Evaluation Rating	Category Factor	Efficiency Rating
A	Time of Delivery					
	A-1 Adherence to Plan Schedule	_____	× .40	= _____		
	A-2 Action on Anticipated Delays	_____	× .30	= _____		
	A-3 Plan Maintenance	_____	× .30	= _____		
	Total Item Weighted Rating				× .30	= _____
B	Quality of Work					
	B-1 Work Appearance	_____	× .15	= _____		
	B-2 Thoroughness and Accuracy of Work	_____	× .30	= _____		
	B-3 Engineering Competence	_____	× .20	= _____		
	B-4 Liaison Effectiveness	_____	× .15	= _____		
	B-5 Independence and Initiative	_____	× .20	= _____		
Total Item Weighted Rating				× .40	= _____	
C	Effectiveness in Controlling and/or Reducing Costs					
	C-1 Utilization of Personnel	_____	× .30	= _____		
	C-2 Control of All Direct Charges Other than Labor	_____	× .30	= _____		
	C-3 Performance to Cost Estimate	_____	× .40	= _____		
Total Item Weighted Rating				× .30	= _____	
<b>Total Weighted Rating</b>				_____		
Rated by:				_____		
Signature:				_____		

NOTE: Provide supporting data and/or justification for below average or outstanding item ratings.